

**La Cholla Boulevard
Ruthrauff Road to River Road**

**Final
Environmental Assessment
and Mitigation Report**

November 2008

Pima County Department of Transportation
Project No. 4LCITR



November 5, 2008

Mr. Dean Papajohn, PE
Civil Engineering Manager
Pima County Department of Transportation
201 N. Stone Avenue, Fourth Floor
Tucson, AZ 85701

RE: Final Environmental Assessment and Mitigation Report
La Cholla Boulevard, Ruthrauff Road to River Road
Pima County Project No. 4LCITR
HDR Job No. 59914

Dear Mr. Papajohn:

We are pleased to submit this *Final Environmental Assessment and Mitigation Report* for the above-referenced project. This report was prepared by Christine Jacobs-Donoghue, Senior Environmental Planner, and was reviewed by Scott Stapp, Senior Environmental Planner, and Ted Buell, HDR Project Manager.

Feel free to contact me at (520) 584-3632 if you have any questions or comments regarding this report. You may reach Ms. Jacobs-Donoghue at (520) 584-3658.

Sincerely,
HDR Engineering, Inc.

Ted W. Buell, PE
Project Manager

Prepared by:

Christine Jacobs-Donoghue
Senior Environmental Planner

Attachments

La Cholla Boulevard Ruthrauff Road to River Road

Final Environmental Assessment and Mitigation Report

November 2008



Prepared for:
Pima County Department of Transportation
201 N. Stone Avenue
Tucson, AZ 85701
Project No. 4LCITR

Prepared by:
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Executive Summary

Project Overview

The Pima County Department of Transportation (PCDOT) proposes to widen approximately 1 mile of La Cholla Boulevard from a two-lane roadway into a six-lane arterial street between Ruthrauff Road and River Road (Figure ES-1). The project includes improvements to the intersections of La Cholla Boulevard and Ruthrauff Road and La Cholla Boulevard and Curtis Road, plus replacement of the bridge over the Rillito River.

Because of the characteristics of the project area (predominantly developed land uses and lacking areas of native vegetation) the environmentally sensitive roadway design requirements have been waived. This Environmental Assessment and Mitigation Report (EAMR) evaluates the alignment alternative that is centered in the right-of-way, provides one-way frontage roads on the east and west sides, and minimizes right-of-way acquisition.

Project Name:	La Cholla Boulevard, Ruthrauff Road to River Road
Pima County Project Number:	4LCITR
Project Location and Limits:	One mile along La Cholla Boulevard beginning approximately 900 feet south of Ruthrauff Road and extending north to River Road. At the intersection with Ruthrauff Road, the project extends west approximately 1,100 feet and east approximately 800 feet.
Construction Fiscal Year:	2010

Estimated Cost and Funding Source

The total cost to Pima County for this project is estimated to be \$25 million. Current project funding includes: 1) sales tax revenue from the citizen-approved *Regional Transportation Plan* administered by the Regional Transportation Authority (RTA), 2) Highway User Revenue Fund (HURF) monies, and 3) Pima County developer impact fees.

Project Purpose and Need

The purpose of the project is to widen La Cholla Boulevard between Ruthrauff Road and River Road to a six-lane roadway, provide a new bridge at the Rillito River, and provide bike lanes and sidewalks.

The project will reduce existing and future traffic congestion on La Cholla Boulevard by providing additional capacity. The project will improve bicycle and pedestrian safety through the construction of sidewalks and bicycle lanes. Providing a dedicated lane for bicycle travel will improve visibility of bicyclists to motorists. Frontage roads will provide safer ingress and egress for residences with driveways on La Cholla Boulevard as compared with direct driveway access. The project will improve safety by replacing the scour-vulnerable bridge with a wider bridge with deeper foundations. The project will also alleviate ponding of storm water at Noreen Street and at Calle Narciso.



Figure ES-1. Project Vicinity





Project Elements

The project involves the widening of La Cholla Boulevard beginning south of Ruthrauff Road and extending north to River Road. Project construction is scheduled to begin in the summer of 2010 and last 18 to 24 months.

The project includes the construction of the following specific improvements:

- Widen La Cholla Boulevard from a two-lane roadway to a six-lane roadway between Ruthrauff Road and River Road.
- Construct a one-way southbound frontage road on the west side of La Cholla Boulevard from Calle Narciso to approximately 700 feet to the north and a one-way northbound frontage road on the east side of La Cholla Boulevard between Noreen Street and Jay Avenue.
- Install turning lanes and raised medians along the center of the roadway.
- Construct bike lanes between Ruthrauff Road and River Road.
- Construct sidewalks between Ruthrauff Road and River Road.
- Reconstruct the Ruthrauff Road intersection to provide additional through and turning lanes.
- Replace the existing bridge over the Rillito River with a new six-lane bridge.
- Install landscape improvements on project medians and along the shoulders to the right-of-way limit.
- Install artwork to be incorporated into the roadway and landscape improvements.
- Construct bus pullouts and bus stops within the project area.
- Install catch basins and pipe culverts capable of conveying 50-year storm flows.
- Conduct minor relocation of existing utilities, including water, sanitary sewer, natural gas, telecommunications, and electric.

Project Impacts and Recommended Mitigation

This section summarizes the key findings and recommended mitigation for project-related environmental impacts, based on the evaluation of each of the topics below.

Biological Resources

The project area has very limited vegetation, but does contain plant species subject to the County's Native Plant Preservation Ordinance and the Arizona Native Plant Law. Plants will be preserved in place, salvaged and relocated, or replaced, consistent with the Ordinance and the project landscape plan. The Arizona Department of Agriculture will be notified regarding plant removal.

The project has the potential to affect nesting birds protected under the International Migratory Bird Treaty Act. Bridge demolition outside the mud swallow breeding season is recommended to avoid impacts to nesting birds. Nest removal and treatment of the existing bridge prior to nesting season is a secondary option. Protocol surveys for burrowing owl are recommended 90 days prior to disturbance of the land southwest of the bridge.



Drainage and Clean Water Act

The project will upgrade the existing storm drain system in support of the new roadway and help remedy existing ponding problems at Noreen Street and Calle Narciso. The construction of the new bridge will require work within the Rillito River, which is a jurisdictional water subject to potentially requiring U.S. Army Corps of Engineers (Corps) permits. Assuming Corps jurisdiction, the project is expected to require a Nationwide Permit under Section 404 of the Clean Water Act. Compliance with Clean Water Act Section 402 will be achieved through the preparation and implementation of a Stormwater Pollution Prevention Plan and the filing of a Notice of Intent to comply with the General Construction Permit.

Floodplain

The project is not expected to affect floodplains. The bridge deck will be above the 100-year floodplain, which, in the project area, is contained within the banks of the Rillito River.

Air Quality

The project will produce an increase in particulate matter (i.e., dust) during construction. This impact will be short term in nature and measures will be implemented to minimize this impact.

The overall impacts of the project on air quality will be positive because: 1) the project will decrease traffic congestion, thereby reducing emissions associated with idling vehicles; 2) the project provides new pedestrian and bicycle facilities and accommodates bus facilities, thereby encouraging the use of alternative transportation modes; and 3) the project will provide curbs, thereby reducing the amount of particulate matter that is tracked onto the roadway from the currently unpaved right-of-way and released into the air.

Noise

The project will result in temporary noise impacts during project construction associated with the operation of heavy equipment. Mitigation measures are proposed to minimize short-term construction noise to the extent practicable; however, construction noise impacts will occur.

The project will result in an increase in traffic noise at adjacent residences. Rubberized asphalt will be used in roadway construction and will result in a noise reduction. The resulting noise levels will exceed acceptable noise levels, based on the Pima County Noise Abatement Procedure (PC NAP) criteria of 66 dBA, at 29 residential locations north of Ruthrauff Road and at the Rillito River Park.

Noise walls are warranted and feasible for installation in the medians between the roadway and the frontage roads on both sides of La Cholla Boulevard, and in front of the residences north of Jay Avenue, on the east side of La Cholla Boulevard. Noise walls will be constructed if approved by a majority of benefitted property owners. Noise walls at the Rillito River Park would not be effective.



Utilities

Affected utilities that will require relocation as part of the project include overhead lines, underground (wet and dry) pipes, and utilities located on the bridge. Relocation work may result in temporary service interruptions to area residences and businesses. Businesses and residences will be notified in advance of any interruptions.

Hazardous Materials

Environmental investigations identified potentially hazardous conditions associated with three past and existing service stations and two closed landfills. Subsurface investigations were conducted to further evaluate these conditions. Based on these investigations, there are no anticipated hazardous materials implications for roadway construction.

Construction Activities

Traffic flow across the Rillito River will be maintained during construction, as will access to all homes and businesses. No major detours or temporary roads will be constructed. Traffic measures are likely to impede the speed of traffic during construction. Construction activities will result in temporary dust generation and noise. Standard measures will be employed to reduce dust and noise. Signs will be provided to identify business access points during construction.

Cultural Resources

The project has the potential to affect subsurface features near the edge of a site eligible for the National Register of Historic Places. Utility relocations associated with the project also may affect this site. In addition, there is a potential to expose human remains during construction. The project limits near the site have been refined to avoid the known location of the site; however, there is still potential to expose resources. Therefore, archaeological monitoring and the preservation and recovery of artifacts and information are recommended in applicable areas. Human remains encountered during fieldwork will be treated in accordance with the burial agreement developed for the project.

Visual Resources

The greatest change in visual character will occur on this project between Ruthrauff Road and Curtis Road by converting a two-lane rural roadway with unpaved shoulders to a six-lane roadway with raised medians, curbs, and a section of frontage roads with recommended noise walls. Background views will be affected near noise wall locations. However, foreground and middle ground views will have a substantial increase in structured hardscape compared with the currently undeveloped right-of-way. Landscape plantings and artistic elements are recommended in this area of the project to soften the hardscape and improve the aesthetic appeal.



Right-of-Way Acquisition and Displacement

New right-of-way totaling 0.43 acre will be needed at three locations, primarily for improvements at Curtis Road and new Rillito River Park connections. The acquisitions would not hinder future development of these parcels. Temporary construction easements are needed at 49 locations, totaling 1.64 acres. Property owners will be compensated for the use of their property as part of project construction, although no compensation will be provided for temporary construction easements needed for the purpose of reconnecting driveways.

Temporary and Permanent Access and Parking Impacts

The project will introduce raised medians with turning lanes that improve safety by reducing conflict points, but also reduce access compared with existing conditions. One-way frontage roads will be provided for the residences that directly front La Cholla Boulevard for safe ingress and egress. The project will improve bus transportation and facilities by providing additional travel lanes or pullouts in some signalized locations so that buses will be able to access the roadway and concrete pads for waiting passengers. Pedestrian and bicycle facilities will be improved through the provision of sidewalks, defined bike lanes with curbs, and new connections to the Rillito River Park. The project will eliminate use of the right-of-way for parking, which will have to be absorbed on commercial and residential properties and local streets. Access to businesses and residences will be maintained throughout the construction process.

Neighborhood Disruption

During construction, the project will create dust, noise, and traffic delays. Standard measures to reduce dust and noise will be implemented during construction. Access to residences and businesses will be maintained, but some traffic delays are unavoidable. The project will introduce raised medians and turning lanes that will improve safety but also limit roadway access. Based on the traffic study, there is a possible cut-through route along Jay Avenue that should be monitored and, if needed, traffic calming measures should be considered. The project will also improve overall connectivity through the provision of improved pedestrian, bicycle, and bus facilities.

Parks and Recreation Areas

The project will disturb features at the Rillito River Park including landscape plants, irrigation lines, and entry monuments. Irrigation lines for the Rillito River Park, Curtis Park, and Flowing Wells District Park will require relocation in association with bridge construction. Park irrigation will be maintained during project construction. During bridge demolition and construction, multiuse path users will be directed around the construction activities, which will include a 1,400-foot detour to the River Road crosswalk for up to 6 months. River park entries will be reconstructed as indicated in the project landscape plan. This work will be coordinated with Pima County Natural Resources, Parks and Recreation.



Consistency with Other Plans

The project will implement one of the first phase projects as outlined and identified in the *Regional Transportation Plan*. The project has been designed and evaluated consistent with the Pima County *Roadway Design Manual*, with minor design exceptions for lane, shoulder, and median widths. These design exceptions minimize right-of-way impacts to adjacent properties and still conform to American Association of State Highway and Transportation Officials (AASHTO) standards.

The project is generally consistent with Circulation Element policies C, D, H, and K1, and moderately consistent with Policy B, from the Pima County *Comprehensive Plan*.



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Summary Table

For the adverse impacts identified in this assessment, a summary describing the impact, recommended mitigation, necessary coordination with other agencies, and the parties responsible for implementing the mitigation is provided below (Table ES-1).

Table ES-1. Impact and Mitigation Summary

Potential Impacts	Recommended Mitigation	Agency Coordination and Consultation	Parties Responsible for Implementation
Removal of native plants	Comply with the Arizona Native Plant Law and the Pima County Native Plant Preservation Ordinance.	Arizona Department of Agriculture	Pima County and Contractor
	File a Notice of Intent with the Arizona Department of Agriculture for the removal or salvage of applicable native plants.	Arizona Department of Agriculture	
Disturbance of nesting birds	Conduct bridge demolition outside the swallow breeding season (after June and prior to March). Alternatively, if it is necessary to conduct bridge demolition during the breeding season, implement the following measure: - Prior to the nesting season, remove nest remnants from the bridge to prevent the birds from rebuilding their nests. Conduct protocol burrowing owl surveys 90 days prior to construction activities.	Arizona Game and Fish Department (if burrowing owls are present)	Contractor
Impacts to waters of the United States	If required, obtain a Section 404 Nationwide Permit.	U.S. Army Corps of Engineers	Pima County and Contractor
Stormwater impacts resulting from soil exposure, erosion, etc.	File a Notice of Intent with the Arizona Department of Environmental Quality (ADEQ), and prepare and implement a Stormwater Pollution Prevention Plan (SWPPP).	Arizona Department of Environmental Quality	Pima County and Contractor
Dust during construction	Implement standard specifications for dust suppression and comply with the SWPPP (referenced above). Obtain an Activity Permit from the Pima County Department of Environmental Quality.	Pima County Department of Environmental Quality	Contractor
Roadway noise	Construct noise walls as identified in the traffic noise report.	Pima County Department of Transportation	Contractor
Construction noise	Construction equipment will be maintained in good working order; intake silencers will be used where appropriate; new equipment will be subject to new product noise emission standards; stationary equipment will be located as far away from sensitive receivers as possible; construction activities adjacent to residential areas will be limited to daylight hours to maximum extent practicable.	Pima County Department of Transportation	Contractor
Utility service interruptions	Utility customers will be notified in advance of any utility service interruptions.	Applicable utilities	Utilities or Contractor
Exposure of unanticipated hazardous materials	If suspected hazardous materials are encountered during construction, work shall cease at the location and the Pima County Engineer shall be contacted to arrange for proper assessment, treatment, or disposal of those materials.	Pima County Department of Transportation	Contractor
Business and residential access during construction	The contractor shall maintain access to businesses and residences. The contractor shall provide signs to identify business access during construction.	Pima County Department of Transportation	Contractor
Disturbance of subsurface cultural resources	Archaeological monitoring will be conducted for construction activities within 100 feet of the Hodges Ruin site boundary. The qualified archaeologist will obtain proper permits, monitor construction activities, determine how human remains are to be treated if found, and prepare a monitoring/data recovery report that documents all findings for submission to the Arizona State Museum, Pima County, and the State Historic Preservation Office. If human remains, site features, or previously unidentified cultural resources are encountered during construction at any location other than that being monitored within 100 feet of the Hodges Ruin, the contractor should stop work immediately at that location, take all reasonable steps to secure the preservation of those resources, and contact the archaeological monitor.	Arizona State Museum Applicable tribes State Historic Preservation Office Pima County Cultural Resources and Historic Preservation Office	Contractor Qualified Archaeological Monitor

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Table ES-1. Impact and Mitigation Summary (*continued*)

Potential Impacts	Recommended Mitigation	Agency Coordination and Consultation	Parties Responsible for Implementation
Visual impact associated with preponderance of hardscape between Ruthrauff Road and Curtis Road	Include landscaping plantings in front of noise walls and in project medians where practical to soften the hardscape. Incorporate aesthetic treatments between Ruthrauff Road and Curtis Road, including elements on proposed noise walls.	Pima County Department of Transportation	Pima County Department of Transportation
Cut-through traffic increases on residential street (Jay Avenue)	Following construction, periodically evaluate Jay Avenue for the presence of cut-through traffic. Monitoring shall be conducted as directed by a qualified traffic engineer.	Pima County Department of Transportation	Pima County Department of Transportation
Landscape, irrigation, and access impacts to local parks	Provide uninterrupted irrigation to existing landscaping at affected parks. The contractor will maintain continuous water service for park irrigation, including reclaimed water main lines. Include delineated park entries using existing walls or other aesthetic treatments. The contractor will maintain access to the Rillito River Park for park maintenance vehicles.	Pima County Natural Resources, Parks and Recreation	Contractor



Agency Coordination

Pima County has cooperated with and will continue to cooperate with several agencies for this project. These efforts include:

- Pima County is coordinating with SunTran on the design of transit facilities that need to be accommodated in the project. The project will provide bus pullouts and stops.
- The project is likely to require a permit from the Corps for compliance with Section 404 of the Clean Water Act (CWA) for construction in the Rillito River. The project team is coordinating with the Corps to determine the appropriate permit to use for the project.
- Compliance with Section 402 of the CWA will require preparation of a Stormwater Pollution Prevention Plan and filing of a Notice of Intent to comply with the Statewide Construction Permit with the Arizona Department of Environmental Quality.
- The project involves the removal of native plants and will require notification to the Arizona Department of Agriculture and development of a Native Plant Preservation Plan.
- The County will consult with interested tribes and the State Historic Preservation Office to mitigate impacts to cultural resources.
- The qualified archaeologist will obtain a burial agreement and a permit from the Arizona State Museum for the archaeological monitoring to be conducted during project construction.
- The County will coordinate with the City of Tucson Water Department regarding access to its well on the west side of La Cholla Boulevard and regarding the relocation of any water facilities.
- In addition, the Pima County Department of Transportation is coordinating with the following County departments:
 - Environmental Quality
 - Natural Resources, Parks and Recreation
 - Regional Wastewater Reclamation



Public Participation

Public Participation Activities

Public involvement activities have included the following key activities:

- Formation of a Community Advisory Committee (CAC)
- Six CAC meetings focusing on: the CAC and project process, roadway alignment, update on reports and surveys and results of the traffic study, discussion of CAC key issues of concern, presentation of the noise analysis, and presentation of the Design Concept Report and EAMR
- Two public open houses focusing on: a project overview, initial project design, and environmental findings including noise study results
- Outreach to area businesses regarding the project and the Regional Transportation Authority Main Street business assistance program

Additional CAC meetings will be held to discuss other key stages of project design. A public hearing will be held on the EAMR.

Community Comments

The CAC favors a number of project design elements, including providing a new, wider bridge; maintaining access to the Rillito River linear park; improving the intersections at Curtis Road and at Ruthrauff Road; providing sidewalks, bike lanes, and raised medians; landscaping medians and shoulders; providing noise barrier walls; providing bus pullouts at Ruthrauff Road; minimizing disruption to utilities; and using public art. Specific design aspects that the CAC would like to see included in the project are further summarized in the comment and response section below.

Additional positive comments from the community have highlighted certain aspects of the project design, including reduction of traffic congestion through the provision of additional capacity; improved roadway safety and access through construction of medians, etc.; improved pedestrian access by constructing sidewalks; corrected drainage problems; provision of landscaping and public art; provision of a new bridge; improved park access; preference for one-way frontage roads; and improved circulation at Curtis Road.

Key CAC and community comments arising from the public involvement activities are outlined below, as well as the County's response indicating how these items are being addressed.

Alignment. The CAC recommends an alternative that would eliminate frontage roads, in favor of adjacent property acquisition, including residential properties on the east and west side of La Cholla Boulevard. This alternative provides for 12-foot travel lanes instead of 11-foot travel lanes adjacent to the frontage road, additional landscaping, and other amenities the CAC believes would improve safety and aesthetics. The County's preferred alternative would provide one-way, 16-foot frontage roads on each side of La Cholla Boulevard, but does not have substantial right-of-way impacts.



Noise walls. The County has received differing opinions on the desirability of noise walls, with many residents favoring the provision of noise walls between the roadway and residences, especially at the proposed frontage roads. A noise study was conducted for the project and, based on the study, noise barriers (walls) are warranted in three areas: in the medians between the roadway and the frontage roads on each side of La Cholla Boulevard and in front of residences north of Jay Avenue. Affected property owners will be contacted to determine whether the warranted noise walls are desired. The PC NAP directs that 51 percent of the benefited property owners must consent before construction of the barrier.

11-foot versus 12-foot travel lanes. Public and CAC comments indicate that 11-foot-wide travel lanes are too narrow and unsafe and that wider lanes should be used, as outlined in the *Roadway Design Manual* or as demonstrated by the existing lanes on La Cholla Boulevard north of River Road. The proposed width of travel lanes meets the national standards provided by AASHTO and is not considered unsafe or substandard. The slightly narrower lane width has been shown in traffic studies to promote slower travel speeds without having a measurable effect on traffic operation. This configuration also minimizes right-of-way impacts.

Signal timing. Signal timing will be considered during the design of the intersections and will provide sufficient time for pedestrians to cross the street at La Cholla Boulevard and Ruthrauff Road, including school children. In addition, the signal timing between Curtis Road and Ruthrauff Road will be coordinated for good traffic operation.

Traffic lanes near homes and safety. There are concerns that speeding cars could leave the road and crash into private property, injuring people or property. Additional lanes will improve safety because they will decrease traffic congestion and the corresponding driver frustration. Decreased lane widths have the effect of slowing driver speed. In addition, the proposed 6-inch curbs and noise walls are intended to prevent vehicle incursion and discourage vehicles from leaving the roadway. The proposed design is within accepted standards and guidelines.

Loss of parking. Parking within the public right-of-way is typically not provided on an arterial roadway and will be eliminated. Therefore, parking will need to be absorbed on commercial and residential properties and local streets.

Access. Raised medians limit access, but also improve safety by reducing the potential for collisions. U-turns will be allowed at median openings and most signalized intersections to facilitate access to local streets, including frontage roads. Frontage roads provide safer access to existing properties that currently access directly into the roadway.

Bus stops and pullouts. The County is coordinating with SunTran on the bus stop locations and configurations. SunTran prefers that bus stops be located on the departure side of signalized intersections, in which case a bus pullout can be used. For nonsignalized locations, or where stops are located on the approach side of an intersection, pullouts are not preferred because it is more difficult for the buses to reenter the travel lane. Because three travel lanes are provided in each direction, a bus stopped in the outside lane is not considered a hindrance to efficient traffic operation.



Bike lane width. The standard bike lane typically used by Pima County is 6 feet wide, including the gutter pan, which reduces the effective bike lane width to 4.5 feet. Gutter pans will be largely eliminated to increase the effective width of lanes to 5 feet at the frontage roads and 6 feet elsewhere. This is consistent with AASHTO and Institute of Transportation Engineers standards.

Right-of-way acquisition. The proposed design maximizes use of the existing right-of-way, thereby minimizing the need for additional right-of-way and avoiding any complete take of commercial or residential properties. This approach saves approximately \$4 million in public monies compared with other design alternatives.

Schedule. Prompt implementation of the project has been encouraged in order to relieve existing traffic congestion. Project construction will commence in the summer of 2010 and be completed within 24 months. Therefore, roadway improvements will be completed by the summer of 2012.

Aesthetics. The community wants landscaping and artwork to be a component of the project. Preliminary planning for landscaping and artwork has begun.



Summary Table

Table ES-2 summarizes the public involvement activities undertaken for the project. Copies of public involvement materials, including advertisements, notices, and meeting summaries, are included in Appendix A.

Table ES-2. Public Participation Activities

Public Activities	Date, Time, and Location or Date and Means of Distribution	Notification	Attendance or Distribution Numbers or Coverage	Methods of Public Input Documentation and Response
Project mailing list	Not applicable	Not applicable	Mailing list includes 920 parties, encompassing 0.5 mile on each side of La Cholla Boulevard	Not applicable
Community Advisory Committee (CAC) formation	CAC was formed in July 2007	Newspaper advertisement in <i>Daily Territorial</i> on February 12, 2007 Notices mailed to the project mailing list (920 parties)	Not applicable	Twenty membership applications were received. Fourteen CAC members were selected, including 12 property owners and 2 business owners.
CAC meeting	Tuesday, August 7, 2007 6 to 7:30 p.m. Metropolitan Domestic Water Improvement District	Notice was mailed to the CAC and parties on the project mailing list and posted to the project Web site.	Seven CAC members and one member of the public attended.	Discussion encompassed introductions, how a CAC operates, a project overview, public art, and initial findings of data collection efforts. Comments from CAC members were documented in the meeting minutes.
	Tuesday, October 2, 2007 6 to 7:30 p.m. Pima County Department of Natural Resources, Parks and Recreation	Notice was mailed to the CAC and parties on the project mailing list and posted to the project Web site.	Nine CAC members attended.	Discussion encompassed the alignment, roadway, and planning. CAC members provided comments on Alternative E that were documented in the meeting minutes.
	Tuesday, October 9, 2007 6 to 7:30 p.m. Pima County Department of Natural Resources, Parks and Recreation	Notice was mailed to the CAC and parties on the project mailing list and posted to the project Web site.	Six CAC members and nine members of the public attended.	Discussion encompassed the status of surveys and reports, an overview of the project schedule, and review of the traffic study results. The CAC members' concerns were discussed and comments were documented in the meeting minutes.
	Tuesday, December 6, 2007 6 to 7:30 p.m. Ellie Towne Flowing Wells Community Center	Notice was mailed to the CAC and parties on project mailing list and posted to the project Web site.	Six CAC members and ten members of the public attended.	Discussion encompassed safety, noise, access, parking, and visual concerns. Public and CAC member comments were addressed and documented in the meeting minutes.
	Thursday, July 24, 2008 6 to 7:30 p.m. Ellie Towne Flowing Wells Community Center	Notice was mailed to the CAC and parties on project mailing list and posted to the project Web site.	Four CAC members and four members of the public attended.	Discussion encompassed a project update and presentation of the noise report. Public and CAC member comments were addressed and documented in the meeting minutes.
	Tuesday, August 12, 2008 6 to 7:30 p.m. Ellie Towne Flowing Wells Community Center	Notice was mailed to the CAC and parties on project mailing list and posted to the project Web site.	Six CAC members and five members of the public attended.	The draft Design Concept Report and draft Environmental Assessment and Mitigation Report (EAMR) were presented. Public and CAC member comments were addressed and documented in the meeting minutes.
	Additional meetings are planned to review the artwork, Stage III design plans, and final design plans.	Not applicable	Not applicable	Not applicable
CAC report	Letter to Pima County Department of Transportation (PCDOT) dated January 17, 2008	Not applicable	Concerns distributed to Pima County Supervisor Sharon Bronson as documented in response letter dated January 24, 2008.	January 24, 2008, response letter from PCDOT
	Letter to PCDOT dated January 31, 2008	Not applicable	Comments confirmed in February 11, 2008, response letter	February 11, 2008, response letter from PCDOT

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Table ES-2. Public Participation Activities (*continued*)

Public Activities	Date, Time, and Location or Date and Means of Distribution	Notification	Attendance or Distribution Numbers or Coverage	Methods of Public Input Documentation and Response
Public open house	Thursday, March 6, 2008 6 to 8 p.m. Ellie Towne Flowing Wells Community Center	Advertisements in the <i>Arizona Daily Star</i> (2/24/08) and <i>Daily Territorial</i> (2/15/08) Postcard announcements mailed the week of 2/18/08 to businesses and residences within 0.5 mile of roadway Direct contact with about 100 businesses by Regional Transportation Authority staff	The open house was attended by 84 members of the public.	Attendees were encouraged to submit comment sheets provided during the meeting. Sixteen individuals submitted comment forms during and following the meeting, which are documented in the meeting summary. The Pima County project manager sent a letter in response to each comment form.
	Thursday, September 11, 2008 5:30 to 7:30 p.m. Ellie Towne Flowing Wells Community Center	Advertisements in the <i>Arizona Daily Star</i> and <i>Daily Territorial</i> (8/27/08) Postcard announcements mailed the week of 8/27/08 to businesses and residences within 0.5 mile of roadway	The open house was attended by 39 members of the public.	Attendees were encouraged to submit comment sheets provided during the meeting. Thirty-seven individuals submitted comment forms during and following the meeting, which are documented in the meeting summary.
	Additional public meetings are planned to review the final design plans.	Not applicable	Not applicable	Not applicable
Survey	Questionnaire sent on September 3, 2008, requesting comments on the project.	Letter to property owners	Property owners within 0.5 mile of the project; approximately 900 parties	Comments were summarized in Summary of Public Opinion Questionnaire.
Document review	The project noise report and the draft EAMR have been posted on the project Web site. The final EAMR will also be available for review at the Main Library (Stone Ave.) and the Flowing Wells Library.	Not applicable	Not applicable	Not applicable
Public hearing	The public hearing is planned to occur following the completion of the final EAMR.	Not applicable	Not applicable	Public hearing comments will be included in hearing transcription.
Business outreach	Outreach occurred in March 2008 to notify businesses about the project and provide information on the Main Street Business Assistance Program.	Direct contact with businesses: in person and by phone calls, as needed	Approximately 100 businesses	Not applicable
Web site	The Web site was established in July 2007 and has been updated as information was developed, including: - Project description - CAC meeting minutes (8/7/07, 10/2/07, 10/9/07, 12/6/07, 7/24/08, 8/12/08) - Project location map - March 2008 open house meeting boards and PowerPoint presentation - September 2008 open house meeting boards and PowerPoint presentation - July 2008 final noise report - August 2008 draft EAMR	The following notices have been posted on the Web site: - CAC application - CAC meetings - Open houses	Not applicable	Not applicable



1.0 Background

The Pima County Department of Transportation (PCDOT) proposes to widen approximately 1 mile of La Cholla Boulevard from a two-lane arterial roadway into a six-lane arterial roadway between Ruthrauff Road and River Road (Figures 1 and 2). The project includes improvements to the intersections of La Cholla Boulevard and Ruthrauff Road and La Cholla Boulevard and Curtis Road and replacement of the bridge over the Rillito River.

- Project Name:** La Cholla Boulevard, Ruthrauff Road to River Road
- Pima County Project Number:** 4LCITR
- Project Location and Limits:** One mile along La Cholla Boulevard beginning approximately 900 feet south of Ruthrauff Road, extending north to River Road. The project width is approximately 150 feet. At the intersection with Ruthrauff Road, the project extends west approximately 1,100 feet and east approximately 800 feet. Located in parts of Sections 15 and 16 of Township 13 South, Range 13 East.

In accordance with Pima County’s Community Participation and Mitigation Ordinance (Pima County § 10.560.010 et seq.), an Environmental Assessment and Mitigation Report (EAMR) is required for major transportation projects. This document was prepared to achieve compliance with ordinance requirements, consistent with guidance on the EAMR in Pima County’s *Roadway Design Manual* (Pima County 2003).

Because of the characteristics of the project area (mostly developed land uses, lacking native vegetation), the environmentally sensitive roadway design requirements were waived by PCDOT (2007a). This EAMR evaluates the alignment alternative that is centered in the right-of-way, provides one-way frontage roads on the east and west sides, and minimizes right-of-way acquisition.

1.1 Project Cost and Funding

The project cost, based on the preliminary design, is outlined by task in Table 1. The total cost is \$25 million, based on a 2010 construction bid date. The cost includes relocation of Pima County Wastewater Reclamation and Tucson Water Department facilities. PCDOT will be reimbursed by Pima County Regional Wastewater Reclamation for relocation costs and reimbursed by up to 50 percent by Tucson Water for relocation costs.

Table 1. Project Cost

Task	Cost (\$)
Construction	19,000,000
Artwork	250,000
Right-of-way	500,000
Design and planning	2,400,000
Construction administration	2,800,000
Total	24,950,000



Figure 1. Project Location

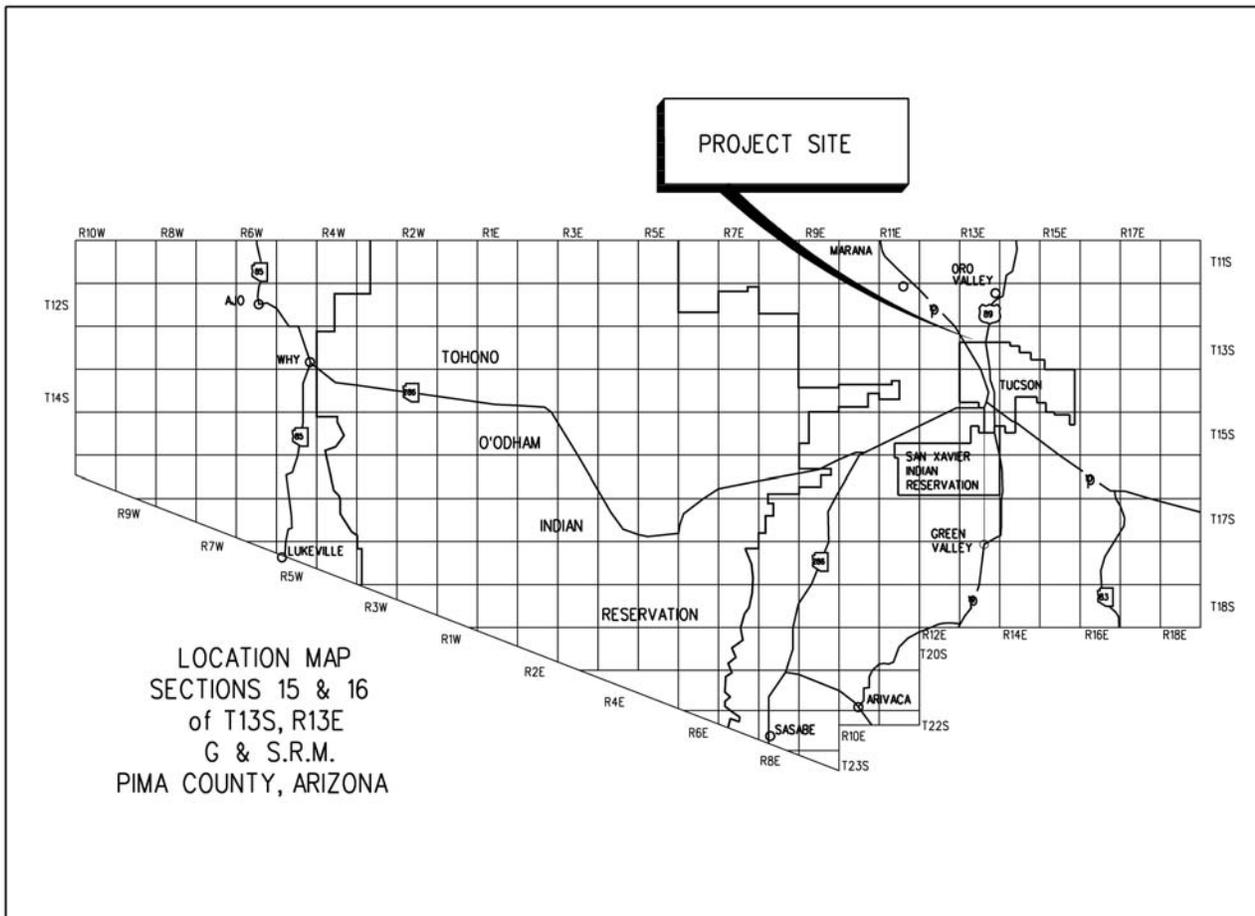




Figure 2. Project Vicinity





Current project funding includes: 1) sales tax revenue from the citizen-approved *Regional Transportation Plan* administered by the Regional Transportation Authority, 2) Highway User Revenue Fund (HURF) monies, and 3) Pima County developer impact fees. Table 2 identifies the funding sources and amounts for the project.

Table 2. Funding Sources

Source	Amount (\$)
2006 Pima County citizen-approved sales tax initiative	14,760,000
Bond Highway User Revenue Fund	1,540,000
Urban area Highway User Revenue Fund	7,150,000
Pima County impact fees	1,549,000
Total	24,999,000

1.2 Direction by Board of Supervisors

On May 16, 2006, the citizens of Pima County approved a \$2.1 billion *Regional Transportation Plan*, administered by the Regional Transportation Authority, to be funded by a ½-half cent increase in the local sales tax. The approved transportation plan included improvements to La Cholla Boulevard from Ruthrauff Road to River Road. The Pima County Board of Supervisors approved the contract for the design of this project in May 2007. A notice to proceed was issued by the director of PCDOT on June 12, 2007.

1.3 Project Design Process

The design process started in June 2007, and the following tasks have been completed:

- Community Advisory Committee (CAC) meetings (six)
- Public open house meetings (two)
- Predesign survey and mapping
- Quality control plan
- Final traffic engineering study
- Stage I drainage report
- Final existing bridge report
- Draft structure selection report
- Draft Design Concept Report (DCR)
- Final geotechnical report
- Native plant survey
- Landscape design concept
- Environmental reports and review
 - Environmental screening memorandum
 - Final biological review
 - Final noise report
 - Cultural resources investigations
 - Hazardous materials investigations
 - Draft EAMR



The following tasks are in progress:

- Stage II drainage report
- Final structure selection report
- Final DCR
- Public art concepts
- Landscape design
- Roadway design

Additional CAC meetings will be held to discuss other key stages of project design. Please see Section 8.0 on public participation.

The Roadway Design Manual allows for the proposed 11-foot wide travel for the project. Factors that support this lane width include: traffic calming, adequacy of narrower lane width because there are no horizontal curves on the roadway, average volumes of truck traffic, limited driveways with direct access to the roadway, and overcapacity of six lanes for 2030 traffic projections.

Completion of the project design is planned for January 2010, with construction commencing in the summer of 2010 and lasting 18 to 24 months.

2.0 Purpose and Need

The purpose of the project is to widen La Cholla Boulevard between Ruthrauff Road and River Road to a six-lane roadway, provide a new bridge at the Rillito River, improve drainage facilities, and provide bike lanes and sidewalks, consistent with the *Regional Transportation Plan* (RTA 2006), current design standards, and other policies and requirements.

The *Regional Transportation Plan* identifies specific improvements to address cross-town mobility, reduce traffic congestion, improve safety and security, improve travel modes, and improve bicycle and pedestrian options in the region. The proposed project is one of 51 projects to be implemented under the plan, and is included in the projects to be implemented during the first period of the plan.¹

The project will reduce existing and future traffic congestion on La Cholla Boulevard by providing additional capacity. This segment of La Cholla Boulevard is currently a two-lane roadway carrying an average daily traffic volume of 23,400 to 28,400 vehicles; it is projected to carry between 41,000 and 44,000 vehicles per day in 2030. Traffic is currently congested during peak hours, resulting in a poor level of service that impedes the efficient movement of traffic in this area. With the proposed improvements, traffic is projected to operate at a satisfactory level of service through 2030.

Most of the southbound traffic on La Cholla Boulevard turns east or west at Ruthrauff Road. Similarly, most of the northbound traffic captured on La Cholla Boulevard originates from Ruthrauff Road. Thus, the reconstruction of the La Cholla Boulevard/Ruthrauff Road intersection improves the capacity for these turning movements, as well as for through traffic on eastbound Ruthrauff Road.

¹ The 20-year plan is divided into four periods: fiscal years 2007–2011, 2012–2016, 2017–2021, and 2022–2026.



The project will improve bicycle and pedestrian safety through the construction of sidewalks and bicycle lanes, both of which are currently lacking on La Cholla Boulevard between Ruthrauff Road and Curtis Road. Providing a dedicated lane for bicycle travel that better separates bicyclists and motorists. Frontage roads will provide safe ingress and egress for residences with driveways onto La Cholla Boulevard and will consolidate access points.

A new bridge is favored in order to improve the scour protection and increase the clearance between the bottom of the bridge and the 100-year flood surface.

The project will also alleviate ponding of water associated with storms at Noreen Street and at Calle Narciso.

3.0 Project Setting

The project area is located along La Cholla Boulevard, from Ruthrauff Road to River Road, including a bridge over the Rillito River, which is a dominant feature of the area (Figure 3). The terrain for the project area south of the Rillito River generally slopes gently to the northwest, and the area north of the Rillito River gently slopes to the southeast. Elevations within the project area vary from approximately 2,247 to 2,279 feet in elevation.

La Cholla Boulevard follows the existing terrain near Ruthrauff Road; however, as it approaches the Rillito River, it rises onto an embankment then drops to meet the elevation of River Road on the other side of the river. There are shallow roadside ditches on each side of La Cholla Boulevard for most of its length.

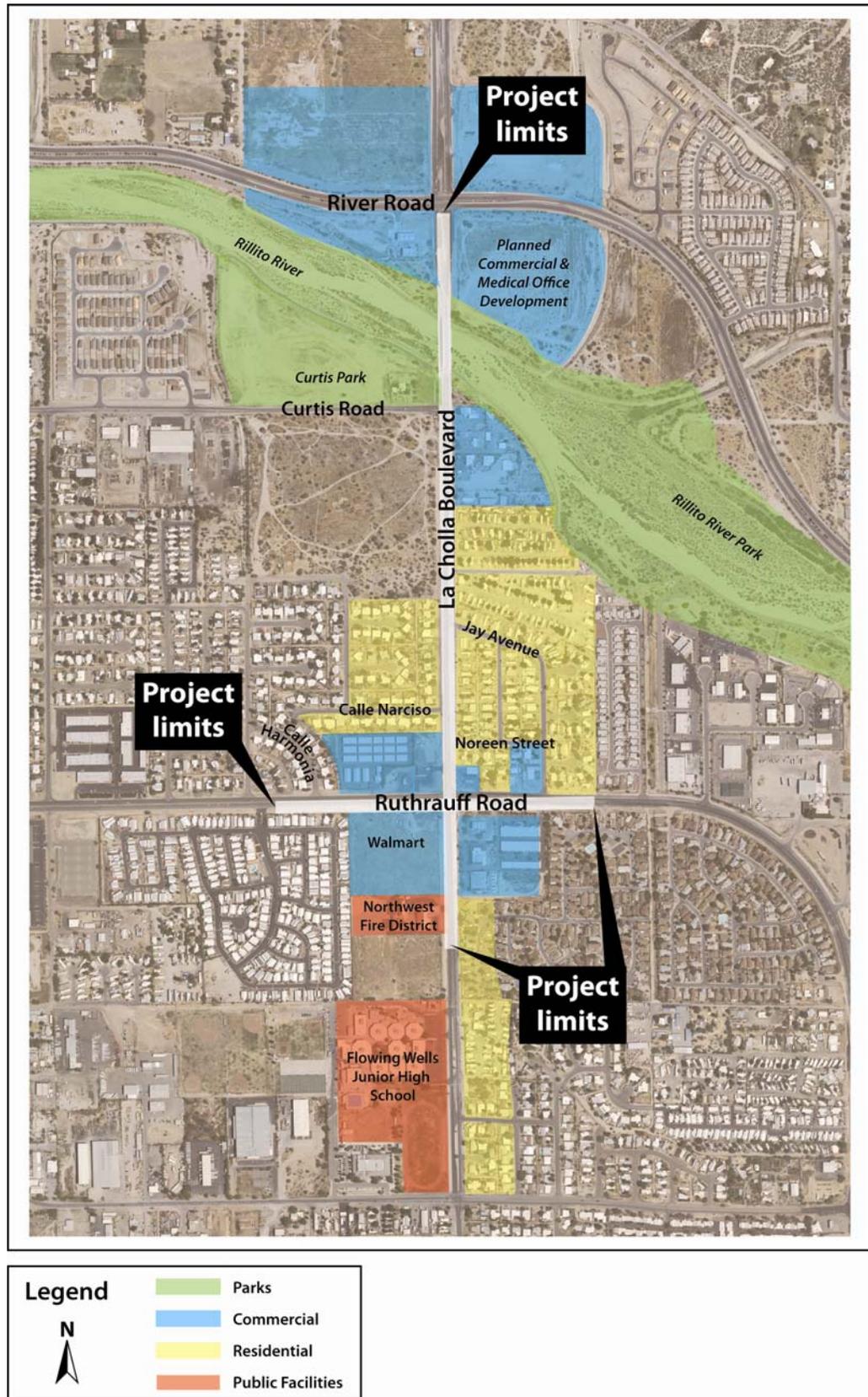
La Cholla Boulevard is currently a two-lane, undivided road with traffic signals at the intersections with Ruthrauff Road, Curtis Road, and River Road. Curbs are provided only near the River Road intersection, and the Ruthrauff Road intersection. The existing roadway has two 12-foot wide travel lanes with 4-foot wide paved shoulders, as well as unpaved and largely unvegetated right-of-way for most its length. Ruthrauff Road in this area is similarly uncurbed with 4-foot paved shoulders and unpaved and unvegetated right-of-way. Additional roadway amenities are present just south of River Road (curbs, bike lanes, and a raised median island) and at the southeast corner of Ruthrauff Road (curbs). The existing bridge over the Rillito River is 354 feet long and 52 feet wide and has a pedestrian walkway along the east side only.

Land uses in the project area include residential (single-family homes and mobile homes), commercial, school/education (Flowing Wells Middle School), municipal (fire station), parks (Curtis Park and Rillito River Park), vacant land, and flood control/river. The density of development in the area is consistent with a suburban to an urban setting.

La Cholla Boulevard is designated a scenic route because of its proximity to the Rillito River. However, the project area is visually characterized by developed land uses and generally lacks native vegetation. Dominant views in the project area include developed land uses, the Rillito River, and the Santa Catalina Mountains.

The groundwater depth may vary by season and precipitation amounts. Recent drilling in the project area indicates that the depth to groundwater in this area is shallow: approximately 48 feet below ground surface (bgs) on the south bank and 55 bgs on the north bank (NCS 2008). The Rillito River is not considered a “unique” or “impaired” water by the State of Arizona.

Figure 3. Project Setting





More detailed descriptions of the existing conditions related to the subjects evaluated in this report are provided in Section 6.0, including biological resources, drainage, water quality, floodplains, air quality, noise, utilities, hazardous materials, cultural resources, visual resources, land use, traffic, circulation, parking, neighborhoods, and parks and recreation.

4.0 Proposed Project

The project involves the widening of La Cholla Boulevard between Ruthrauff Road and River Road (Figure 4). The design speed for this project is 50 miles per hour (mph) and will be posted for 45 mph. Project construction is scheduled to begin in the summer of 2010 and last 18 to 24 months.

The project includes the construction of the following specific improvements:

- Widen La Cholla Boulevard from a two-lane roadway to a six-lane roadway (three lanes northbound and three lanes southbound) between Ruthrauff Road and River Road. Travel lanes will be 11 feet in width (Figures 4 and 5).
- Construct a one-way southbound frontage road on the west side of La Cholla Boulevard from Calle Narciso to approximately 700 feet to the north, and a one-way northbound frontage road on the east side of La Cholla Boulevard between Noreen Street for approximately 700 feet north to Jay Avenue. The frontage roads will be 16 feet wide (Figure 6).
- Construct raised medians and turning lanes throughout the length of the project. Median openings will be provided at all streets except for Noreen Street. An opening at Noreen Street would conflict with the southbound left turn onto Ruthrauff Road east. Northbound left-turn lanes will be provided at Ruthrauff Road, Calle Narciso, Curtis Road, and River Road, and a U-turn median opening will be provided approximately 600 feet south of Curtis Road. Southbound left-turn lanes will be provided at Ruthrauff Road, Jay Avenue, and the commercial center at the southeast corner of River Road and La Cholla Boulevard.
- Construct bike lanes between Ruthrauff Road and River Road. Bike lanes will be 6 feet wide, except adjacent to the frontage roads, where they will be 5 feet wide.
- Construct sidewalks between Ruthrauff Road and River Road. Sidewalks will be 5 feet wide and set back 4 feet from the curb, except at the frontage roads, where they will be set adjacent to the frontage road with a 1.5-foot-wide wedge curb. Sidewalks, crosswalks, and access ramps will be Americans with Disabilities Act (ADA) compliant.
- Reconstruct the Ruthrauff Road intersection to provide two through lanes, two left-turn lanes, and a right-turn lane for southbound La Cholla Boulevard and eastbound Ruthrauff Road. Northbound La Cholla Boulevard will feature one through lane, one right-turn lane, and one left-turn lane. Westbound Ruthrauff Road will feature two through lanes, one right-turn lane, and one left-turn lane.
- Replace the existing bridge over the Rillito River with a new six-lane bridge (Figures 7 and 8).
- Install landscape improvements on project medians and along the shoulders to the right-of-way limit (Figures 9, 10, and 11).



Figure 4. Proposed Roadway Design





Figure 5. La Cholla Boulevard Typical Roadway Section

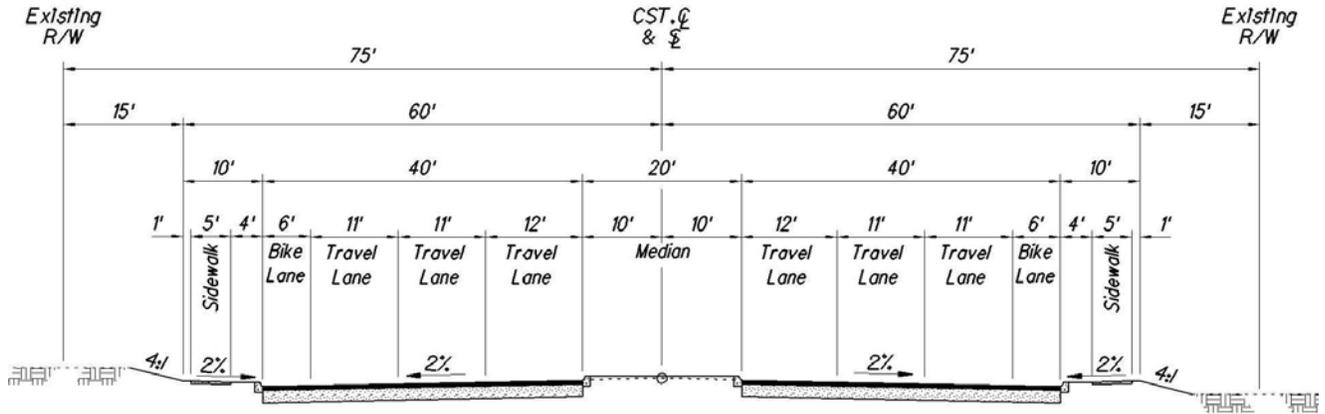


Figure 6. La Cholla Boulevard Typical Roadway Section with Frontage Roads

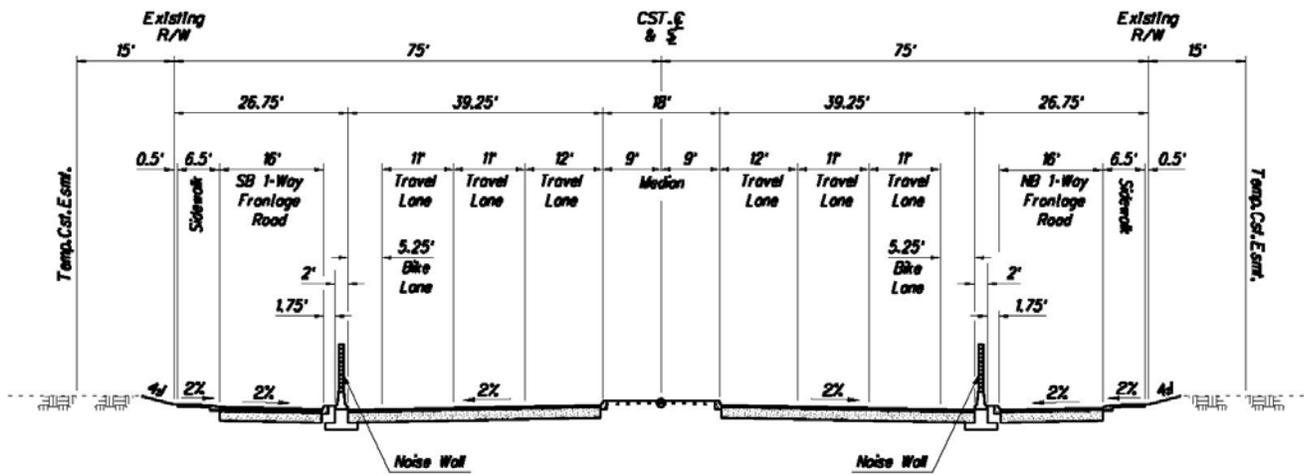


Figure 7. Bridge Plan and Elevation

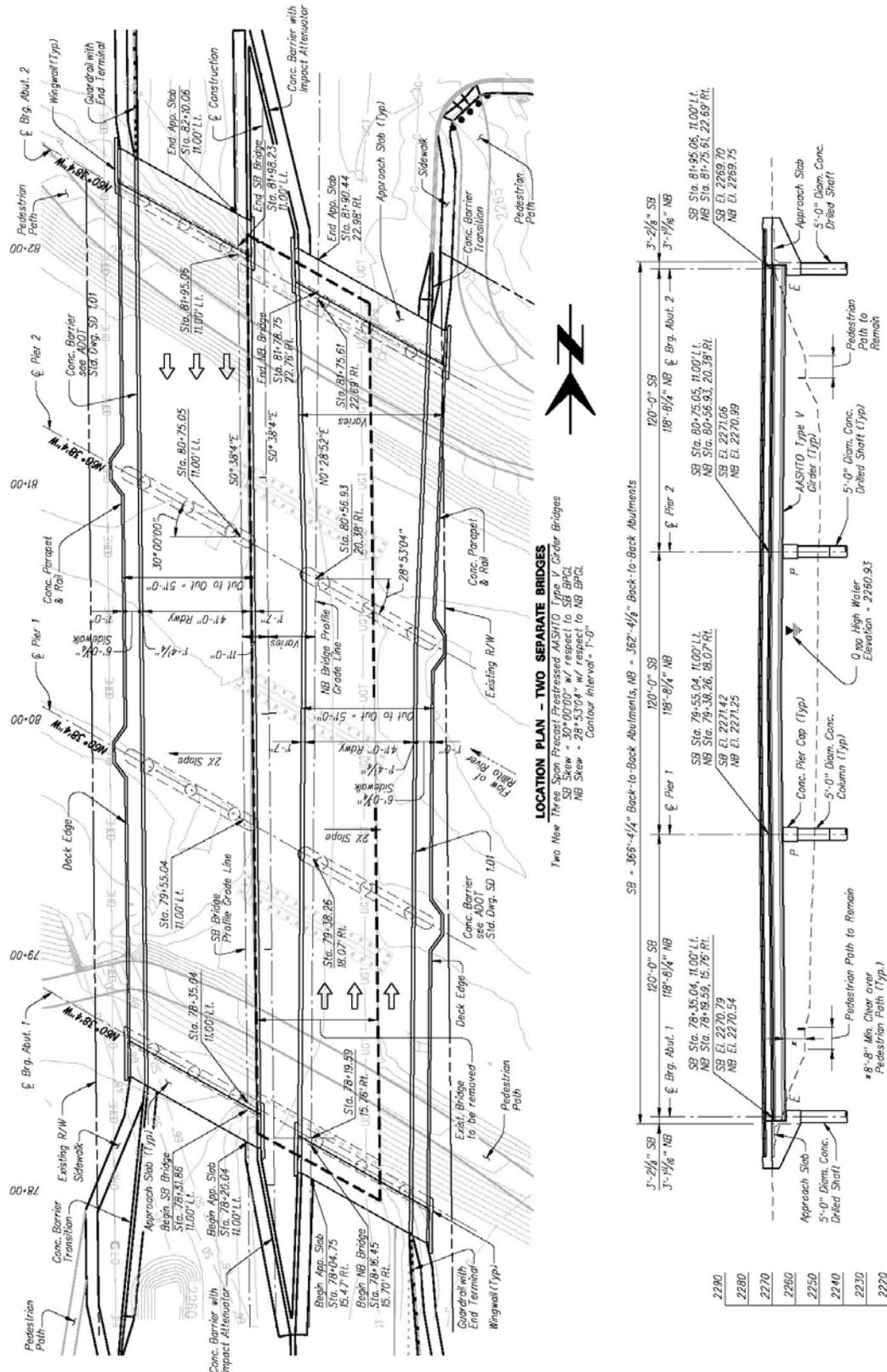
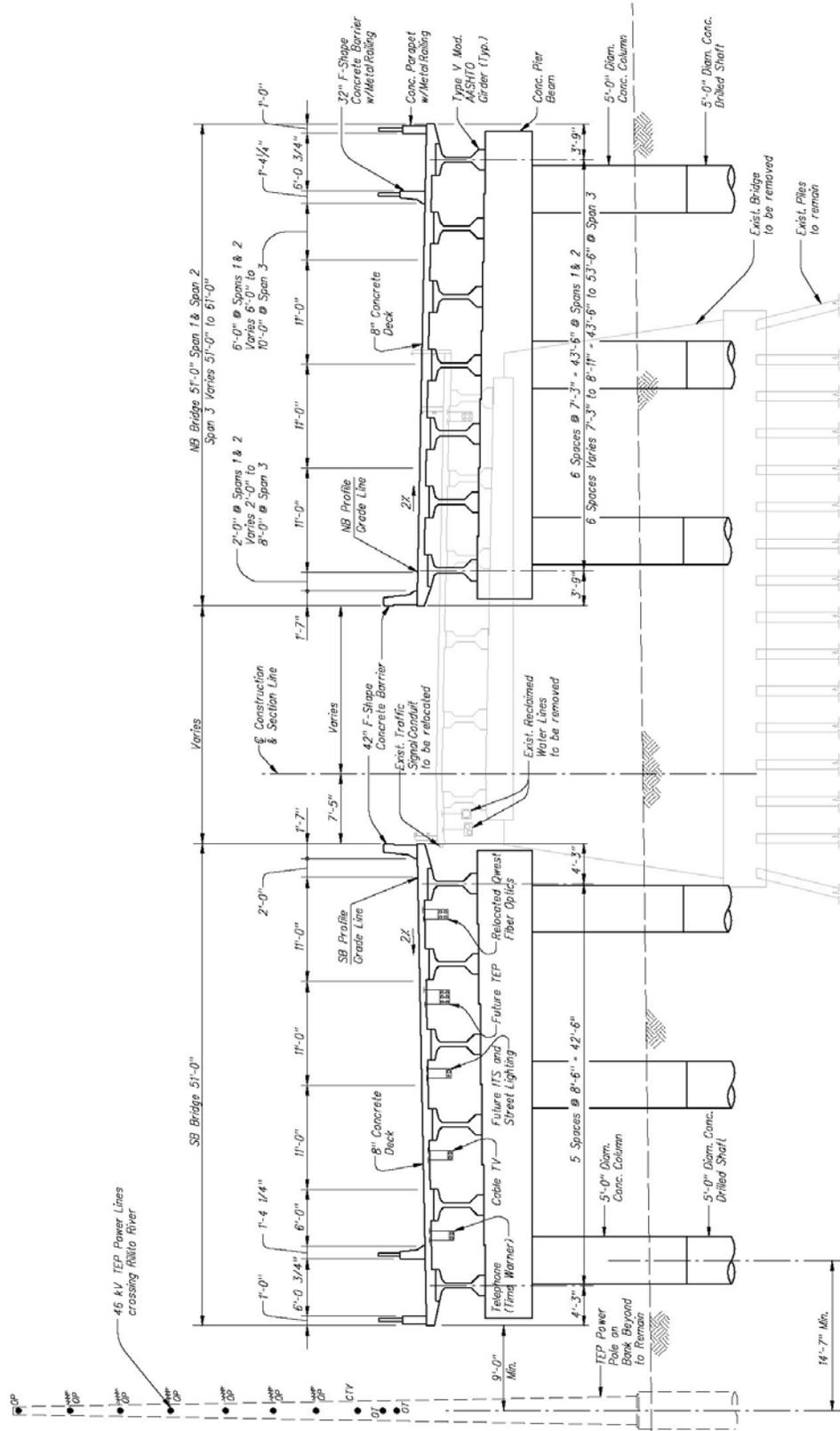




Figure 8. Bridge Typical Section



TYPICAL SECTION - NEW SB & NB BRIDGE

Figure 9. Landscape Concept for Roadway



Figure 10. Landscape Concept for Section of Roadway with Frontage Roads

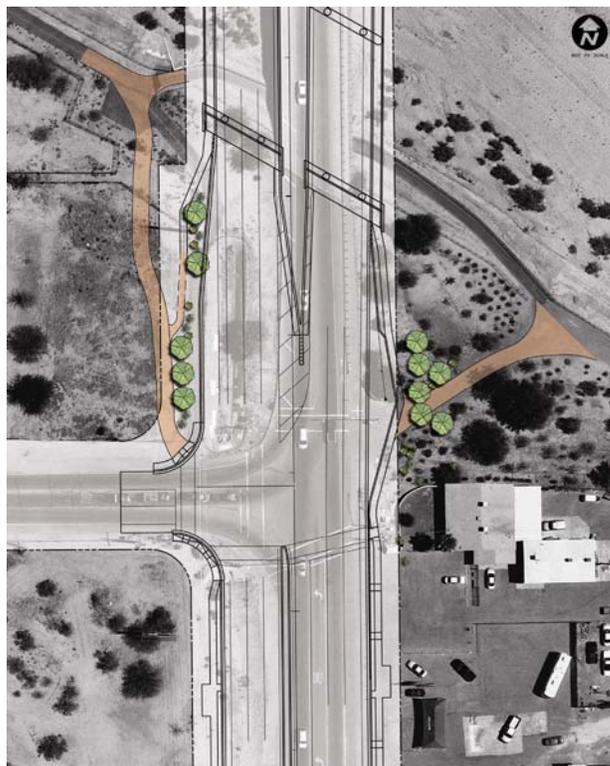


Landscape concept without noise walls



Landscape concept with noise wall on west frontage road median

Figure 11. Landscape Concept for Park Access





- Install artwork to be incorporated into the design and landscape improvements. Appendix I contains preliminary art concepts.
- Construct bus pullouts on the departure side of all four corners of the intersection of Ruthrauff Road and La Cholla Boulevard. Six additional bus stops will be constructed along La Cholla Boulevard. Bus stop construction involves the installation of a concrete platform adjacent to the curb where passengers can wait for the bus. SunTran is responsible for adding facilities such as benches, trashcans or shelters, if desired.
- Install catch basins and pipe culverts capable of conveying 50-year storm flows.
- Coordinate minor relocation of existing utilities, including water, sanitary sewer, natural gas, telecommunications, and electric.

5.0 Environmental Screening

An environmental screening memorandum was completed in October 2007 (PCDOT 2007b, Appendix B). The memorandum identifies environmental conditions to be considered in the environmental review and project design process, including likely permit requirements and the need for additional environmental investigation. The environmental screening memorandum indicated that the project would require the following items:

- Cultural resources compliance, including preparation of a cultural resources assessment, including archaeological testing
- A biological review, Western burrowing owl surveys, and removal of unoccupied mud swallow nests on the Rillito River bridge prior to construction
- A noise analysis to evaluate changes resulting from increased traffic capacity
- Hazardous materials investigations and testing, including investigation of subsurface soil conditions associated with service stations and past landfill activities
- Clean Water Act (CWA) Section 404 permitting and CWA Section 402 permitting
- Asbestos testing of the bridge's concrete and National Emissions Standards for Hazardous Air Pollutants (NESHAP) notification through the Pima County Department of Environmental Quality (PCDEQ) for bridge demolition
- An Air Quality Activity Permit from PCDEQ, obtained by the contractor, for dust control during construction

Based on the environmental screening additional work has been conducted including a cultural resources assessment, a biological review, a traffic noise study, and hazardous materials investigations. See Section 6.0 for additional discussion of these topics.



6.0 Environmental Assessment and Mitigation

For each issue evaluated in Sections 6.1 and 6.2 of this report, the following information is provided: a description of existing conditions, any permits that will be required for the project, an assessment of the potential environmental impacts, and proposed mitigation measures for reducing adverse impacts. Proposed mitigation is also summarized in Section 9.0, Table 12. Section 3.0, *Environmental Setting*, also provides general information on the area conditions such as topography, depth to groundwater, etc.

6.1 Natural/Physical Environment

This section evaluates impacts to the natural or physical environment including biological resources, drainage and CWA requirements, floodplains, air quality, noise, utilities, hazardous materials, construction activities, cultural resources, and visual resources. See Section 6.2 for evaluation of impacts to the neighborhood and the social environment.

6.1.1 Biological Resources

This section evaluates impacts to biological resources, based on a biological review (Pima County 2008b, Appendix C), and a Native Plant Inventory (Pima County 2008c, Appendix E) conducted for the project area.

Existing Conditions

The project area is located within the Arizona Upland Subdivision of Sonoran desert scrub (Turner and Brown 1994); however parcels have been graded and there is minimal vegetation within the project limits. A biological review was completed for the project to evaluate the project area's potential to support protected species. In addition, a native plant inventory was conducted consistent with the County's Native Plant Protection Ordinance. Native plants are largely limited to tree species of mesquite, acacia, and palo verde. See Appendix E for a complete inventory of native plant species.

The U.S. Fish and Wildlife Service's list of federally listed species and the Arizona Game and Fish Department's list of special-status species were reviewed to determine if any species listed as endangered or threatened had the potential to occur within the project area. No sensitive species have the potential to occur in the project area. However, the presence of migratory birds consistent with the International Migratory Bird Treaty Act (IMBTA) also requires consideration.

Remnants of mud swallow nests were observed on the underside of the Rillito River bridge in July 2007 and May 2008. No active use of mud swallow nests has been observed. In May 2008, a swallow was observed nesting in a round pipe sleeve at the bridge's north abutment. Rock doves were also observed nesting on telecommunications conduit under the bridge. While rock doves are non-migratory and not afforded protection under IMBA, this may be indicative of additional bird nesting opportunities on the bridge.

Within the project area, the banks of the Rillito River were reviewed for potential burrowing owl habitat. The banks are soil cemented; therefore, no habitat was identified. However, a vacant lot located on the southwest quadrant of the bridge has native vegetation, and therefore, may provide habitat for the burrowing owl.



Permits

Protocol burrowing owl surveys will be required and will need to be conducted by a qualified biologist with an appropriate permit from the Arizona Game and Fish Department.

Potential Impacts

The project will widen La Cholla Boulevard, encroaching on some areas that currently have native vegetation. Consistent with the Native Plant Protection Ordinance, protected plants will be preserved in place, salvaged and relocated, or replaced. The project will also include a landscape plan that will incorporate native vegetation.

Construction activities southwest of the bridge have the potential to affect burrowing owls, if present. Protocol surveys will be needed in this area 90 days prior to construction to confirm whether owls are present, and, if so, to avoid adverse impacts to owls. Since owls could move onto the site following the survey, a follow-up survey is also recommended 30 days prior to construction.

The project will involve the demolition of the bridge over the Rillito River and construction of a new bridge. Therefore, demolition has the potential to disturb nesting birds at this location if conducted during the breeding season.

Mitigation Measures

The following measures are recommended to avoid impacts to birds under the IMBTA:

- Conduct bridge demolition outside the swallow breeding season (after June and prior to March). Alternatively, if it is necessary to conduct bridge demolition during the breeding season, implement the following measure:
 - Prior to the swallow breeding season (March through June), nest remnants will be removed from the bridge, and, if needed, measures will be implemented to prevent the birds from rebuilding their nests. The measures could include coating the underside of the bridge with a slippery surface or installing netting.
- Conduct protocol burrowing owl surveys southwest of the bridge 90 days prior to planned activity, including soil disturbance or equipment staging at this location. If owls are absent during the 90 day survey, conduct a follow-up survey 30 days prior to planned activity to confirm continued absence of owl.

The following measure is recommended for compliance with the Arizona Native Plant Law.

- File a Notice of Intent with the Arizona Department of Agriculture for the removal or salvage of applicable native plants. The Notice of Intent will be filed prior to the removal or salvage of native plants.



6.1.2 Drainage and Clean Water Act

This section evaluates the project impacts related to drainage, including CWA requirements.

Existing Conditions

Watershed Hydrology and Water Quality

The project is located within the Upper Santa Cruz and Avra Basin aquifer. The most prominent drainage feature in the project area is the Rillito River, which crosses La Cholla Boulevard approximately 800 feet south of River Road.

A jurisdictional delineation will be prepared to determine whether the segment of the Rillito River affected by the project is considered a Water of the United States (WOUS). Also see the CWA discussion under *Permits*, below.

The Rillito River has a drainage area of approximately 900 square miles, upstream of La Cholla Boulevard. It drains the southern portion of the Santa Catalina Mountains, the eastern portion of the Rincon Mountains, as well as several hundred square miles of desert. Watershed elevations range from 2,200 to 9,200 feet. Watershed slopes range from less than 1% to almost vertical relief in the mountains.

The Rillito River, at its crossing with La Cholla Boulevard, is a 300-foot-wide ephemeral stream with lined banks. The streambed is comprised of medium to coarse sand with some gravel and cobbles. The bed is vegetated with a typical assortment of desert vegetation.

The Federal Emergency Management Agency (FEMA) has determined the 100-year and 500-year discharge rates for the Rillito River to be 32,000 cubic feet per second (cfs) and 62,000 cfs at the La Cholla Boulevard crossing, respectively.

The other watersheds that affect this roadway are fairly minor, with an aggregate size of about 60 acres. The main offsite watershed is roughly bordered by the Rillito River on the north, Casas Adobes Wash that runs parallel to and 1,300 feet east of La Cholla Boulevard on the east, Wetmore Road on the south, and La Cholla Boulevard on the west. Storm runoff generated within the watershed generally flows to the northwest in streets, roadside swales, and existing storm drains. The watershed is developed with single-family homes, mobile home parks, and light commercial developments. The vegetative cover consists of natural desert scrub, even in most of the residential areas where property owners have generally elected to maintain the desert appearance of their land in lieu of lawns or formal landscaping.

North of the Rillito River, a small drainage area is currently being built into a commercial office center on the southeast corner of La Cholla Boulevard and River Road. The development plan shows that the runoff will be collected and conveyed to the south through the soil cement bank protection directly into the Rillito River.



Drainage Facilities

There is an existing two-lane bridge over the Rillito River. It measures 356 feet long from abutment to abutment and consists of four equal spans. The bridge is 52 feet wide. The average distance between the low chord of the bridge and the channel bottom is about 14 feet.

The north and south banks of the Rillito River are lined with soil cement. The hydraulic analysis indicates that the 100-year flood is confined within the soil cement banks of the Rillito River upstream and downstream of the bridge. The 100-year water surface is approximately 2 feet below the low chord of the bridge.

In 1984, a major storm drain system was installed in La Cholla Boulevard from Ruthrauff Road to the Rillito River. At the outfall, the storm drain consists of twin 66-inch reinforced concrete pipes that have a combined capacity of about 330 cfs. A 54-inch reinforced concrete pipe was built in Ruthrauff Road in 2004 and connected to the La Cholla Boulevard storm drain. Runoff enters the existing storm drains through a series of grated catch basins located along the east edge of the La Cholla Boulevard right-of-way. The capacity of the existing storm drains was estimated to be between a 10-year and 25-year flood.

Runoff is conveyed under Curtis Road through two 48-inch corrugated metal pipes that outfall into a concrete-lined ditch. This ditch terminates into a single 48-inch reinforced concrete pipe that carries the runoff through the soil cement bank protection into the Rillito River. In a 50-year storm, this pipe carries about 180 cfs.

Pima County Regional Flood Control District has reported ponding/flooding problems on La Cholla Boulevard at Noreen Street and Calle Narciso.

Permits

Prior to 2006, the Rillito River has been characterized as a WOUS and, therefore, has been subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) under Section 404 of the CWA. However, a U.S. Supreme Court decision (*Rapanos v. United States*, 547 U.S. 715 [*Rapanos*]) in 2006 suggests that the Corps' jurisdiction may be more limited. According to *Rapanos* and subsequent Corps and U.S. Environmental Protection Agency (EPA) guidance, in addition to meeting certain hydrological conditions (minimum discharge rates, bed and bank characteristics, etc.), a wash must have a significant nexus to a traditional navigable water (TNW) in order to be characterized as a WOUS. Most recently (May 2008), the Corps determined that two reaches of the Santa Cruz River are TNWs (2008). Prior to this determination, the Colorado River was the closest potentially related TNW to the project drainage.

If any WOUS is affected by the project, the County will obtain a Section 404 Nationwide Permit from the Corps for work within the Rillito River and comply with the measures for the permit. The project is likely to affect more than 0.1 acre of potentially jurisdictional waters.



Because the project is likely to disturb more than 1 acre of land, the project will also require a CWA Section 402 permit for compliance with the Arizona Pollutant Discharge Elimination System (AZPDES) program. Section 402 compliance can be obtained by filing a Notice of Intent to use the statewide General Construction Permit with the Arizona Department of Environmental Quality (ADEQ), along with preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP identifies potential sources of stormwater pollution at the construction site and defines the methods for preventing stormwater pollution. These practices include erosion and sediment control, good housekeeping measures (i.e., site cleanup, hazardous materials management, and equipment maintenance), efforts to protect natural resources, and maintenance/inspection procedures. The SWPPP also identifies the procedures to comply with the requirements in the General Construction Permit.

Potential Impacts

Drainage Improvements

The Rillito River bridge will be replaced with two separate side-by-side bridge structures. It will have three spans constructed of precast concrete girders. Using three spans instead of the current four spans will allow the new drilled shaft piers to be built without having to remove the steel piles that support the existing bridge. However, this design requires deeper girders to be used. To maintain the low chord elevation, the roadway profile over the bridge will be raised. The hydraulic analysis results indicate that there is a small backwater effect from the proposed bridge caused by the wider piers, but the 100-year flow characteristics will remain essentially the same as with the existing bridge. The backwater will continue to be contained within the existing bank protection. For the 100-year discharge, the water surface elevation immediately upstream of the proposed bridge will increase by less than 1 foot, which is the design standard for the bridge.

The proposed cross drainage system will be designed to convey the predicted 1-hour, 50-year flows under the new road at each point of concentration. Because the existing storm drains in La Cholla Boulevard will not carry the entire 50-year flow, additional capacity is needed.

The proposed storm drain improvements consist of adding two new storm drains to the existing system in La Cholla Boulevard. One storm drain picks up the watershed south of Ruthrauff Road and carries the runoff north to the Rillito River. A second new storm drain picks up the commercial area south of the Rillito River and east of La Cholla Boulevard. This leaves the existing storm drains with sufficient capacity to carry the 50-year runoff from the remaining areas.

The offsite drainage will be collected in grated catch basins set to match the existing flow line grades; therefore, no erosion or sedimentation problems are anticipated at these collection points. The new storm drains are all designed to flow at a minimum velocity of 3 feet per second to prevent sedimentation within the storm drain system.

The storm drain systems will directly outfall into the Rillito River through a concrete outfall structure that will be constructed through the soil cement. An outfall structure currently exists; however, it will need to be rebuilt to the west of the existing location to provide adequate headroom for the rebuilt bike path that crosses under the bridge.



The two ponding/flooding problems at Noreen Street and Calle Narciso will be fixed with implementation of the updated drainage system.

Project construction will temporarily disturb and expose soil along the project right-of-way and temporarily introduce potential storm water pollutants associated with construction equipment and materials. Soil disturbance and excavation will also occur in the Rillito River associated with demolition of the existing bridge, construction of the new bridge, and installation of the drainage improvements.

The project will result in the replacement of the existing undeveloped roadway right-of-way, which consists of unvegetated bare soil with developed roadway including landscaping, pedestrian paths, bicycle lanes, and travel lanes. The developed condition will decrease soil erosion and water pollution associated with wind, water, and vehicle disturbance of the existing exposed soil.

Mitigation Measures

The proposed drainage system will increase drainage capacity and provide sufficient drainage capacity for a 50-year storm. Drainage capacity will be improved compared with existing conditions, and existing ponding problems at Noreen Street and Calle Narciso will be alleviated. Therefore, no adverse drainage conditions would result from the project and no mitigation for drainage is proposed.

If impacts to waters of the United States will occur, the County will obtain a Section 404 Nationwide Permit for work within the Rillito River and comply with the measures for the permit.

To comply with Section 402 of the CWA, the County will file a Notice of Intent to use the statewide General Construction Permit with ADEQ and prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). Implementation of the SWPPP will provide measures to protect water quality during construction so that no adverse impacts would result. In addition, the constructed project will result in a decrease in soil erosion compared with existing conditions.

6.1.3 Floodplain

This section evaluates potential impacts to floodplains in the project area.

Existing Conditions

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), the project corridor is in areas designated as Zone Z, AE, and X, as described in Table 3. Under these designations, land within the 100-year floodplain would include areas north of the Rillito River bank. However, bank protection has been implemented that confines the Rillito River within the bank protection during a 100-year flood. Most recently (summer of 2006), a larger than 100-year storm occurred and the floodwater was contained within the banks of the Rillito River in this area. Thus, areas currently designated as AE and X are actually outside the 100-year flood zone.



During the recent 100-year plus flood, water reached the bottom of the bridge girders. The 500-year storm does overtop the bank protection. In the event of a 500-year flood, the approaches to the bridge would be inundated. South of Noreen Street, the project is outside the 500-year flood zone and is not a consideration.

Table 3. Floodplain Designations in the Project Area

Zone	Description	Locations
A	Areas within the 100-year flood zone where no base flood elevations have been determined	North bank of the Rillito River to the northern project limits
AE	Areas within the 100-year flood zone where base flood elevations have been determined	Rillito River
X ^a	Areas within the 500-year flood zone	From the south bank of the Rillito River south to Noreen Street; all areas within the 100-year flood zone
X ^a	Areas outside the 500-year flood zone	All other areas of the project

Source: FEMA FIRM Map No. 04019C167K, 1999.

^a Floodplains designated as X were differentiated through shading of the areas within the 500-year flood zone on the FIRM map, with no shading for areas outside the 500-year flood zone.

Potential Impacts

The project includes the replacement of the bridge over the Rillito River with two side-by-side bridges. The profile of the bridge will be higher than the existing bridge; however, the shape, width, and length of the piers will create drag and displace floodwater at the bridge. The increase in water surface elevation will result in a reduction of freeboard between the top of the bank protection during a 100-year storm. Although the new bridge will raise the water surface, the water surface will remain over one foot below the top of the bank protection, which is adequate because the bank protection is not a levee. In addition, the freeboard between the lowest girder and the water surface elevation will be at least two feet.

Mitigation Measures

No adverse impacts to floodplains have been identified and no mitigation is recommended.

6.1.4 Air Quality

The EPA established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: ground level ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM_{2.5} and PM₁₀), and lead. This section evaluates the project impacts related to these criteria pollutants.



Existing Conditions

The Pima County Department of Environmental Quality (PDEQ) operates air quality monitoring stations at various sites throughout Pima County to monitor the levels of the criteria air pollutants (except lead). The closest monitoring station to the project area is the Children’s Park monitoring station, approximately 2 miles east of La Cholla Boulevard near the confluence of the Rillito River and Pima Wash. This station monitors levels of CO, O₃, NO₂, and particulate matter less than 2.5 microns in aerodynamic diameter (PM_{2.5}). Table 4 presents the federal standards and the averaging period over which the standard is measured for the pollutants monitored at this site. The table also compares the most recently reported results from this site (2006) to the NAAQS. The monitoring data indicate that the project area meets the NAAQS for monitored pollutants.

Table 4. 2006 Monitoring Data from Children’s Park Site, compared with NAAQS

Monitoring Location	Pollutant (Averaging Period) ^a	Federal Standard	Monitored 2006 Value
Children’s Park	PM _{2.5} (maximum 24-hour concentration)	65 µg/m ³	16 µg/m ³
	PM _{2.5} (annual arithmetic mean concentration)	15 µg/m ³	5.79 µg/m ³
	CO (maximum 1-hour concentration)	35 ppm	1.7 ppm
	CO (maximum 8-hour concentration)	9 ppm	1.1 ppm
	O ₃ (maximum 1-hour concentration)	0.12 ppm	0.082 ppm
	O ₃ (4 th highest 8-hour concentration)	0.08 ppm	0.072 ppm
	NO ₂ (annual arithmetic mean concentration)	0.053 ppm	0.0148 ppm

Source: PDEQ and EPA (49 Code of Federal Regulations 50).

Abbreviations: ppm = parts per million, µg/m³ = micrograms per cubic meter

^a PM₁₀ is not monitored at this location.

Pima County is in attainment for all criteria pollutants; however, two pollutants (CO and PM₁₀) are worthy of note. Although still considered an attainment area, Pima County exceeded the PM₁₀ NAAQS in 1999. As a result, PDEQ developed a Natural Events Action Plan (NEAP) to protect public health, educate the public about high wind events, mitigate health impacts from future events, and identify and implement control measures for man-made sources of dust. The NEAP (and the ensuing Pima County ordinance) requires an activity permit from PDEQ before activities such as earthmoving, trenching, or road construction are conducted. The ordinance also limits the amount of dust generated from these activities to a maximum opacity (cloudiness) of 20 percent.



CO concentrations within the study area are determined by pollutants emitted into the air (primarily from motor vehicles) and the lack of pollutant dispersion due to topographical and meteorological characteristics of the Tucson basin. As a result of these conditions, exceedance of the CO NAAQS was relatively common in the 1970s; however, no CO violations have been recorded since 1984. The improvement in CO levels resulted in the Tucson Air Planning Area (TAPA) being designated by EPA as an attainment area for CO in 2000. A limited maintenance plan was approved that establishes procedures and contingency measures to be implemented, if necessary, in the future. The plan requires additional monitoring and modeling of CO concentrations at intersections with the worst level of service and highest average daily traffic. A limited maintenance plan applies to areas where the monitored CO concentrations are equal to or less than 85% of the 8-hour CO NAAQS for at least 8 consecutive quarters.

Permits

An activity permit from the PDEQ will be required prior to initiating any construction activities and will require dust control measures. An asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) notification and activity permit application will need to be filed with the Pima County Department of Environmental Quality (PCDEQ) for bridge demolition. Under federal regulations, this filing is required whether asbestos is detected or not.

Potential Impacts

The proposed project is located within an area that is in attainment for all criteria pollutants. Construction-related soil disturbance and operation of heavy equipment would produce an increase in particulate matter during roadway construction, but these impacts would be short-term in nature and mitigated as described below.

The long-term impacts of the project on air quality will be positive. The project will serve to relieve existing and projected traffic congestion on area roadways. As a result, decreasing traffic congestion would result in lower emissions from stop-and-go traffic and idling vehicles, which would otherwise negatively affect air quality. In addition, pedestrian and bicycle facilities within the area would be improved; therefore, increased use of less polluting alternative transportation modes could be expected.

The roadway is currently without curbs. As a result, soils and other materials from the unpaved roadway shoulders are tracked onto the roadway by vehicles as they enter the roadway. This situation is exacerbated after rainfall. As traffic passes over this material, it is ground into finer and finer particles and is liberated from the roadway as fine particulate matter. The provision of curbs along the roadway will decrease the amount of particulate matter that is tracked onto the roadway and will result in lower fine particle emissions from the roadway surface.



Mitigation Measures

Prior to initiating any construction activities, such as earthmoving, trenching, or road construction, the contractor will obtain an activity permit from PDEQ. The contractor will monitor dust generation from the construction area and limit the amount of dust generated to a maximum opacity of 20 percent. The contractor will follow PCDOT standard specifications for dust suppression during construction and will comply with the SWPPP prepared for this project.

As a result of these mitigation measures, the proposed project would have only temporary, short-term, and minimal impacts to particulate levels during project construction. The project would reduce long-term air quality impacts by decreasing traffic congestion, improving alternative modes of transportation, and reducing particulate emissions associated with exposed soil.

6.1.5 Noise

Noise is unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment. This section evaluates potential noise impacts to sensitive properties based on a project-specific traffic noise report (PCDOT 2008d, Appendix F) that models existing and future noise levels along La Cholla Boulevard, using the proposed design plans for the project and future 2030 traffic forecasts. The noise report is consistent with the Pima County Department of Transportation and Flood Control District procedure on Traffic Noise Analysis and Mitigation Guidance for Major Roadway Project (PCDOT 2008e), commonly referred to as the Pima County Noise Abatement Procedure, or PC NAP. Potential construction noise impacts are also described.

In addition to evaluating noise at sensitive receivers adjacent to the project, properties set farther back from the roadway, identified herein as second row properties, were also evaluated. This information is useful in understanding roadway noise impacts at these locations for the proposed design. In addition, the DCR includes alternatives that would eliminate one or both frontage roads and substitute residential property acquisitions. Thus, the evaluation of second row properties also identifies the likely impact and mitigation needs for DCR alternatives that would involve these residential property acquisitions.

Pima County Noise Abatement Procedure

The PC NAP provides guidance to evaluate traffic noise and identifies criteria for the application of noise mitigation for Pima County's major roadway projects. It includes procedures for noise analysis methodology, traffic noise abatement, and reporting requirements. Under the PC NAP, noise abatement is considered when noise levels are predicted to reach 66 A-weighted² decibels (dBA) or higher at sensitive properties, or when noise levels substantially exceed existing levels, defined as a 15 dBA increase. Sensitive properties include housing and may include parks and recreation areas, schools, churches, libraries, hospitals, and cemeteries.

² A decibel is a logarithmic unit that indicates the amount of sound energy. The A-weighted decibel scale approximates the sensitivity of the human ear. The approximate threshold of hearing is 0 dBA, while the approximate threshold of pain is 140 dBA. Most suburban areas have daytime noise levels ranging from 50 to 70 dBA.



The PC NAP includes a provision for the use of rubberized asphalt, which reduces roadway noise. Rubberized asphalt will be used for this project, and a 3-dBA credit is taken for its use consistent with the PC NAP.

Noise abatement measures must be feasible, reasonable, and desired by the affected individuals. Feasibility considers whether it is structurally, geometrically, and acoustically possible in light of the site constraints to achieve a substantial noise reduction. Feasibility may take into consideration drainage issues, safety considerations, maintenance requirements, and other noise sources in the area. Reasonability means that PCDOT believes mitigation measures are prudent, based on consideration of the following conditions:

- The cost of the noise abatement shall not exceed \$35,000 per benefited receiver, at \$25 per square foot of constructed barrier.
- The noise barrier will benefit more than one sensitive property.
- The noise barrier will provide a 5-dBA noise reduction without being more than 10 feet high.

If potential walls are deemed feasible and reasonable, than desirability will be considered. A majority of the owners for the benefited properties must approve the barrier in order for it to be constructed.

Existing Conditions

Noise sensitive properties within the project area are predominantly single-family homes. Another noise sensitive property is the linear park along the Rillito River. Flowing Wells Junior High School is located south of the project limits and noise levels at the school would not be adversely affected by the project.

The dominant noise source during peak traffic hours in the project area is roadway noise. Field readings were taken at three locations (Figures 12 and 13) to measure existing noise conditions during peak-hour traffic flows and to compare them with the predicted sound levels using the noise model. Readings were taken on October 4 and October 10, 2007, from 7 to 8:30 a.m. and from 4:45 to 5:15 p.m. Noise was modeled to determine the existing noise levels at sensitive properties in the project area.

South of Ruthrauff Road, existing noise levels at residences range from 58 to 59 dBA for adjacent properties and 53 to 54 dBA for properties set farther back from the road (second row properties). North of Ruthrauff Road, existing noise levels at residences are higher, ranging from 63 to 69 dBA for adjacent properties and 59 to 65 dBA for second row properties. Existing noise levels at Rillito River Park range from 62 to 69 dBA. Thirty-three properties currently exceed the 66-dBA criteria.



Potential Impacts

Traffic Noise

The proposed project would widen La Cholla Boulevard between Ruthrauff Road and River Road from a two-lane undivided roadway to a six-lane divided roadway with dedicated turn lanes at the intersections. Frontage roads would be constructed for the residential lots that directly access La Cholla Boulevard. Traffic volumes on the roadway are expected to increase because of regional growth and expanded roadway capacity associated with the improvements, as indicated in Table 5. The increase in traffic volume will result in an increase in the noise along the roadway. The project will use rubberized asphalt, which results in a noise reduction on the roadway. However, no rubberized asphalt will be used on the bridge.

Table 5. Existing (2007) and Future (2030) Peak-Hour Traffic Volumes

Location	2007	2030	Increase
Between Wetmore Road and Ruthrauff Road	290	440	150
Between Ruthrauff Road and Curtis Road	950	1,640	690
Between Curtis Road and River Road	1,140	1,760	620

Source: Kimley-Horn and Associates, Inc., *Final Traffic Engineering Study for La Cholla Boulevard, Ruthrauff Road to River Road*, February 2008.

Future noise levels were predicted for 52 residential properties and four locations at the Rillito River Park (Figures 12 and 13). Noise was modeled for 36 locations adjacent to the roadway, generally within 120 feet of the roadway centerline, including the Rillito River Park (Appendix F). To represent the second row of homes parallel to, but set farther back from La Cholla Boulevard, 20 additional locations, generally within 260 feet of the roadway centerline, were modeled (Appendix F).

Predicted future peak-hour noise levels range from 62 to 72 dBA for adjacent residential properties, an expected increase from 3 to 5 dBA, with an average increase of approximately 4.1 dBA. With the use of rubberized asphalt, noise levels will be lower, ranging from 59 to 69 dBA, an expected increase from 0 to 2 dBA, with an average increase of approximately 1.3 dBA. Predicted noise levels will be higher at the Rillito River Park locations adjacent to the bridge because the concrete bridge deck will not have an overlay of rubberized asphalt. Noise at adjacent park locations will range from 67 to 71 dBA, an expected increase from 3 to 5 dBA, with an average increase of approximately 4.0 dBA.

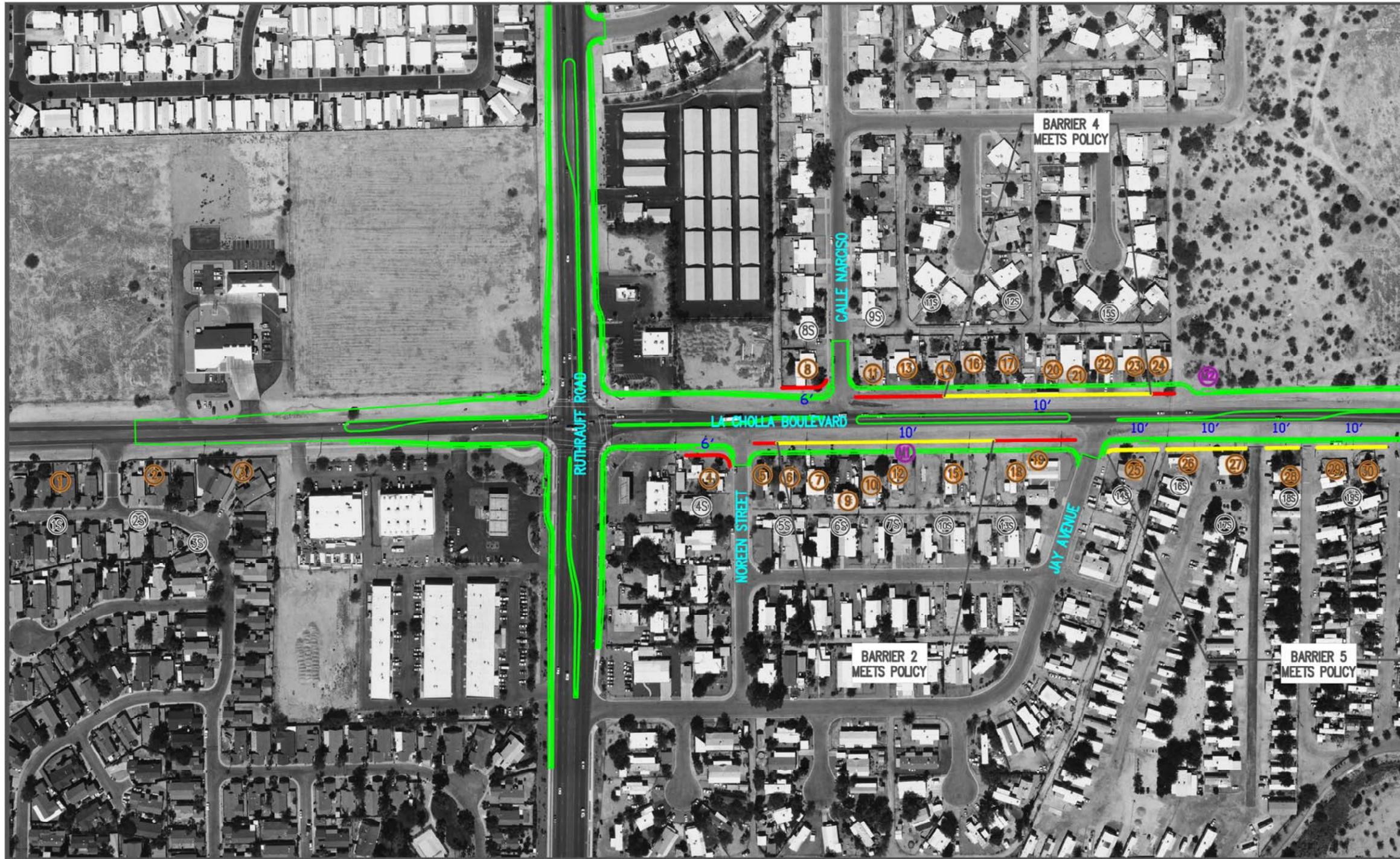
Future noise levels for adjacent residences south of Ruthrauff Road would range from 60 to 63 dBA and are below the 66 dBA criteria. However, 28 of the 29 adjacent residences north of Ruthrauff Road would exceed the PC NAP criteria and warrant evaluation for noise abatement.

For second row properties, future peak-hour noise levels range from 57 to 69 dBA; however, with the use of rubberized asphalt, future noise levels would range from 53 to 66 dBA. One residence on the east side of La Cholla Boulevard, north of Ruthrauff Road, would exceed the PC NAP criteria and warrant evaluation for noise abatement.



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Figure 12. Noise Monitoring and Receiver Locations (Southern End)



- Proposed Roadway Design
- M1 Monitoring Site
- 1 Receiver Location
- 1S Second Row Receiver Location
- Potential Barrier Meeting PCDOT Criteria
- Potential Barrier Not Meeting PCDOT Criteria
- 10' Barrier Height Necessary to Achieve Sound Reduction



Figure 13. Noise Monitoring and Receiver Locations (Northern End)



- Proposed Roadway Design
- M Monitoring Site
- 1 Receiver Location
- 1S Second Row Receiver Location
- Potential Barrier Meeting PCDOT Criteria
- Potential Barrier Not Meeting PCDOT Criteria
- 10' Barrier Height Necessary to Achieve Sound Reduction





Construction Noise

Construction of the proposed improvements will cause temporary noise impacts associated with the operation of construction equipment during site clearing, earthwork/grading, foundation preparation, and base preparation. Construction noise will be intermittent, with the highest noise levels occurring during the grading/earthwork phase, reaching sound levels up to a maximum instantaneous sound level of 93 dBA at the project right-of-way. Table 6 further illustrates the noise created by construction equipment. Most construction work will be conducted during daylight hours. Project constraints may require some construction activities at night and in the early morning hours. For instance, some utility work is conducted at night when utility demands are low so that service disruptions are minimized.

Table 6. Construction Equipment Noise

Phase	Equipment	Equipment Maximum ^a	Number of feet to right-of-way	Maximum ^a sound levels at right-of-way
Site clearing	Dozer	84	50	88
	Backhoe	85	50	
Grading/earthwork	Scraper	92	75	93
	Grader	91	75	
Foundation	Backhoe	85	100	85
	Loader	84	100	
Base preparation	Compressor	85	100	85
	Dozer	84	100	

^a The maximum instantaneous sound level in decibels.

Source: Traffic Noise Study, PCDOT 2008d, Appendix F



Mitigation Measures

Predicted future noise levels would exceed the 66-dBA criterion for 30 noise sensitive properties, including 28 adjacent residences, 1 second row residence, and the Rillito River Park. All of the adversely affected properties are north of Ruthrauff Road. The provision of noise walls (also referred to as noise barriers) was evaluated for feasibility and reasonableness for all of these locations. Five distinct areas were evaluated for noise walls (Table 7).

Table 7. Noise Wall Evaluation

Wall No.	Length/Height	Location Description	No. of Units ^a	Units Benefited	Consistency with PC NAP Criteria
1	106 feet 6 feet	Single wall, east side of La Cholla Blvd., south of Noreen Street	1	1	Does not meet minimum number of benefited receivers.
2	478 feet 10 feet	Single wall, east side of La Cholla Blvd., between Noreen Street and Jay Avenue	10	4	Consistent with PC NAP.
3	100 feet 6 feet	Single wall, west side of La Cholla Blvd., south of Calle Narciso	1	1	Does not meet minimum number of benefited receivers.
4	457 feet 10 feet	Single wall, west side of La Cholla Blvd., north of Calle Narciso	10	5	Consistent with PC NAP.
5	707 feet 10 feet	Six walls, east side of La Cholla Blvd., north of Jay Avenue	9	7	Consistent with PC NAP.

^a Units refers to the number of actual residential units, as opposed to receiver locations, which represent a specific location that may encompass more than one residential unit.

Walls 1 and 3 would each benefit only one residence. Under PC NAP criteria, at least two benefited receivers are needed for the noise wall to be considered reasonable. Therefore, noise walls 1 and 3 do not meet reasonability criteria and are not recommended. Thus, noise levels for these two locations will exceed PC NAP criteria.

Walls 2, 4, and 5 meet reasonableness and feasibility criteria, and will effectively reduce noise for 16 residential units. Actual wall lengths will need to be adjusted to accommodate safety requirements.³ As a result, the noise walls will not achieve a 5-dBA noise reduction for 11 residences, but will still provide some sound reduction benefit for 8 of these residences.

Because of the numerous access points needed to provide pedestrian and bicycle access to the Rillito River Park, noise barriers at these locations would have limited effectiveness. In addition, the nature of the recreational facility, a multiuse path, does not involve fixed recreation that would warrant noise protection. Therefore, noise walls at the park were not

³ Safety considerations include sight distance to ensure that walls do not obscure views needed for drivers to see traffic prior to turning onto the roadway. In addition, walls can be considered a hazard to vehicles in the event of a collision. Therefore, a barrier between the wall and the travel lanes is required in some locations.



evaluated, and an unavoidable increase in noise at park locations adjacent to the bridge and roadway will result.

Should homes adjacent to the planned frontage roads be removed, none of the second row receivers then exposed to La Cholla Boulevard would reach noise levels exceeding the PC NAP criteria for noise abatement. Therefore, no noise mitigation for these properties would be warranted.

The following mitigation measure is recommended to reduce long-term roadway noise at sensitive receivers:

- Construction of noise walls 2, 4, and 5 as identified in the traffic noise report for the project, with any necessary modifications to account for sight distance and attenuation requirements.

The following mitigation measures are recommended to address short-term construction noise:

- Exhaust systems for construction equipment will be in good working order. Equipment will be maintained on a regular basis, and may be subject to inspection.
- Properly designed engine enclosures and intake silencers will be used where appropriate.
- New equipment will be subject to new product noise emission standards.
- Stationary equipment will be located as far away from sensitive receivers as possible.
- Construction activities adjacent to residential areas will be limited to daylight hours to maximum extent practical. Overnight construction activities in these areas will be minimized, will require prior approval from PCDOT, and will require notification of area residences and businesses.

Even with consideration of the above mitigation measures, noise levels would still exceed the PC NAP criteria of 66 dBA at eight residences.



6.1.6 Utilities

This section identifies the utilities present in the project area and potential impacts to these existing utilities.

Existing Conditions

Numerous utility facilities are located within the project right-of-way, as outlined in Table 8.

Table 8. Existing Utilities

Provider	Utility
Pima County Regional Wastewater Reclamation	8", 10", and 15" sanitary sewer pipes
Tucson Water	6", 12", and 16" water pipes and well site
Pima County Natural Resources, Parks and Recreation	4" and 6" irrigation lines, electrical for irrigation controllers—both on bridge
Tucson Electric Power	46 kV and 14 kV overhead electric lines
Southwest Gas	4" high-pressure pipeline and 4" distribution gas pipeline
Qwest	Telephone line—on bridge
Xspedius Communications	Fiber optic telephone line
Comcast	Cable television line
SDT (ATT&T)	Fiber optic telephone line
Pima County Department of Transportation	Electrical line for traffic signals on the bridge

Permits

For any work related to the municipal sewer system, a public sewer construction permit will be required from Pima County Wastewater Management and will provide for construction coordination, as well as reporting, coordination, and guidance for cleanup in the event of any wastewater release.

The Tucson Water Department will obtain a permit from the PCDEQ for any work related to the water system.

Potential Impacts

Overhead utilities will need to be relocated outside the future travel lanes for the project. Some of the underground utilities will need to be relocated to accommodate drainage facilities, changes in grade for the new roadway, and to allow future access to utilities for repairs or maintenance. Utilities located on the bridge over the Rillito River will need to be relocated to the new bridge in association with new bridge construction.



The water and sanitary sewer lines will be affected by the installation of the new drainage facilities associated with the project. At Ruthrauff Road, the drainage facilities can be placed above the sanitary sewer line and no relocation will be needed; however, the wastewater line on the west side of La Cholla Boulevard will conflict with proposed drainage facilities at two locations and require relocation and/or isolation from drainage facilities. The water and wastewater lines will either be relocated in advance of project construction, or during project construction.

The party responsible for utility relocation is identified in Table 9. The relocation of gas, telephone, cable, and overhead electric lines will be conducted in advance of roadway construction by the utility providers. Relocation of high-voltage electric lines, high-pressure gas lines and the 16" water line in Ruthrauff Road (if needed) will be conducted during months when demand for these services is lower (Table 9).

Table 9. Utility Relocation Responsibilities

Provider Utility	Party to Conduct Relocation	Party to Notify Customers^a	Relocation Period
Pima County Regional Wastewater Reclamation 8", 10", and 15" sanitary sewer	Utility	Utility	Not applicable
Tucson Water 16" water 6" and 12" water	Contractor Contractor	PCDOT PCDOT	October to April Not available
Pima County Natural Resources, Parks and Recreation 4" and 6" irrigation electrical for irrigation controllers	Contractor Contractor	PCDOT PCDOT	Not applicable Not applicable
Tucson Electric Power High-voltage electric	Utility	Utility	September to May
Southwest Gas High-pressure gas	Utility	Utility	April to September
Qwest Telephone (on bridge)	Utility	Utility	Not applicable
Xspedius Communications Fiber optic telephone	Utility	Utility	Not applicable
Comcast Cable television	Utility	Utility	Not applicable
SDT (ATT&T) Fiber optic telephone	Utility	Utility	Not applicable

^a If sufficient time is available, utility customers will be notified by mail. If insufficient time is available, notice will be provided on a door-to-door basis (door hanger, etc.).



Utility relocation may result in temporary service interruptions to area residents and businesses. Utility providers endeavor to minimize service interruptions and will reroute service where feasible to minimize interruptions. Service interruptions can generally be limited to a few non-peak hours per day, over a few days, or a half-day interruption. Affected customers will be notified of any planned service interruptions. Some utility work may be conducted at night when service demand is low to minimize effects on customers; this will reduce direct utility impacts, but may result in a temporary noise impact during relocation.

Utility conflicts are not expected to result in any conflicts with cultural resources. However, given the project proximity to a known cultural site, relocations may have some potential to affect unknown buried resources. See Cultural Resources section for further discussion.

Mitigation Measures

As discussed above, utility service interruptions will be minimized, but some service interruptions are unavoidable and may result in temporary impacts to residents and businesses. As outlined in Table 9, utilities or the contractor will notify utility customers in advance of any utility service interruptions.

For utility relocation work along Ruthrauff Road, archeological monitoring shall be conducted by a qualified archeologist approved by Pima County, as further outlined in the Cultural Resources section.

6.1.7 Hazardous Materials

This section evaluates the project impacts related to hazardous materials based on hazardous materials investigations including a Phase I Environmental Site Assessment (Phase I ESA, PCDOT 2007c, Appendix G), and subsurface investigations (Preliminary Site Investigation, PCDOT 2008g).

Existing Conditions

A Phase I Environmental Site Assessment (PCDOT 2007c) was prepared to evaluate the potential for recognized environmental conditions related to past or existing land uses and activities that may adversely affect roadway construction or right-of-way acquisition. The Phase I assessment includes the following activities: a review of federal, state, and local environmental databases; a review of historical records; a site reconnaissance; and interviews with property owners/land managers.

Land uses in the project area include residential and light commercial uses, including active service stations, a historic service station, and an inactive landfill. Review of historical records indicates that the project corridor has developed over the past 40 years as a transportation facility that serves north-central Tucson. Prior to development, the area was desert scrub.

Table 10 outlines specific site locations, considerations and findings for each site evaluated in the Phase I assessment. Figure 14 identifies the location of sites in the project area. Five sites were identified in the Phase I ESA to be of moderate to high risk and have the potential to affect project development. Therefore, subsurface investigation within the project right-of-way near these sites was conducted to confirm whether any contamination is within the project right-of-way.



Table 10. Hazardous Materials Sites and Evaluation

Site	Name and Location	Type of Site and Considerations	Phase I Assessment	Subsurface Investigations
A	Existing service station at the southeast corner of La Cholla Boulevard and Ruthrauff Road	An operating service station with an active underground storage tank (UST). This type of facility is often the source of unreported subsurface impacts. The UST is near the project right-of-way.	Moderate to high risk	No contamination within the right-of-way at actionable levels.
B	Existing service station: Circle K Store at 2080 West Ruthrauff Road on the northeast corner of La Cholla Boulevard and Ruthrauff Road	An operating service station with an active UST and an open LUST case. Soil characterization conducted in 2005 involved testing of soil borings and identified concentrations of benzene above ADEQ residential thresholds. This type of facility is often the source of unreported subsurface impacts. The UST is near the project right-of-way.	High risk	No contamination within the right-of-way at actionable levels
C	Family Food Store at 2100 West Ruthrauff Road	A past service station with a known release of petroleum fuels: two closed LUST cases and a closed UST case. Soil characterization conducted in 2003 involved testing of soil borings and did not identify any concentrations of regulated contaminants above ADEQ residential thresholds. This type of facility is often the source of unreported subsurface impacts. The site is near the project right-of-way.	High risk	No contamination within the right-of-way at actionable levels
D	West side of La Cholla Boulevard, south of the Rillito River	A closed landfill in operation from 1968 to 1972. The boundaries of this past landfill are not defined and it is possible the eastern boundary may encroach on the project right-of-way.	Moderate to high risk	Landfills materials do not extend into the right-of-way
E	East side of La Cholla Boulevard, south of the Rillito River	A closed landfill in operation from 1968 to 1969. The boundaries of this past landfill are not defined and it is possible the western boundary may encroach on the project right-of-way.	Moderate to high risk	Landfills materials do not extend into the right-of-way
F	Circle K at the southwest corner of River Road and La Cholla Boulevard, approximately 300 feet west of La Cholla Boulevard	A new UST associated with a new gas station. The site is located hydrologically down-gradient from the project limits. The site is not a LUST case, involves a relatively new UST and is not expected to have any interaction with the project. Therefore, site F is not a consideration.	Low risk	No subsurface investigation warranted

Source: Phase I ESA (PCDOT 2007c, Appendix G)

Figure 14. Hazardous Materials Site Locations





To address potential contamination related to existing and past service stations (sites A, B, and C), a preliminary site investigation was conducted involving drilling within the project right-of-way adjacent to these sites and testing the drill samples for contamination exceeding ADEQ residential thresholds (PCDOT 2008g). Lab analysis indicates that there are no regulated contaminants present at detectable levels. Therefore, the service stations are not expected to have any hazardous materials implications for the project.

To address potential contamination related to the two past landfills (sites D and E), subsurface characterization of potential landfill material has been conducted (PCDOT 2008g). Test pits were excavated to determine the presence and makeup of landfill materials with the project right-of-way. No materials were encountered during investigations along the west side of the right-of-way. Minor trash amounts were found in one test pit on the east side of the right-of-way, but are not sufficient in volume to be directly related to the landfill limits. The results indicate that the limits of the closed landfills do not extend into the roadway right-of-way and are not a further consideration for the project.

Samples were also collected and tested for the presence of asbestos in load-bearing concrete structures (bridge, culverts) and lead paint for coated facilities (railings, etc.). Test results were negative for the presence of both asbestos and lead and, therefore, these structures and facilities do not merit further consideration.

Potential Impacts

The project includes the demolition of the bridge over the Rillito River and excavation and earthmoving activities. Based on the hazardous materials investigations, subsurface hazardous materials issues associated with past contamination are not anticipated. No asbestos or lead containing materials have been identified within project limits. Therefore, no exposure or release of hazardous materials is expected to result from demolition, excavation, or earth moving activities associated with the project.

No buildings would be demolished under the proposed design. However, the DCR includes alternatives that would involve residential property acquisition/demolition. Under one of those alternatives, buildings would need to be assessed for the presence of lead and asbestos.

Mitigation Measures

If any suspected hazardous materials are encountered during construction, work shall cease at the location and the Pima County Engineer shall be contacted to arrange for proper assessment, treatment, or disposal of those materials.

If any properties are acquired that require demolition, the buildings would need to be tested for lead and asbestos and, if present, be remediated prior to demolition.

No specific hazardous materials conditions are anticipated and there are no further recommendations.



6.1.8 Construction Activities

This section evaluates impacts that may result from construction activities associated with the project such as traffic control, detours, dust abatement, and noise.

Existing Conditions

Land uses along the project corridor primarily consist of residences and commercial businesses. Additional land uses include the Rillito River Park, a fire station, and vacant land/open space.

Potential Impacts

Project construction is expected to begin in the summer of 2010 and last from 18 to 24 months. The project construction phasing has been developed based on two primary assumptions: 1) traffic flow across the Rillito River will be maintained during construction, and 2) access to all homes and businesses must be maintained during construction.

The proposed bridge and roadway construction sequence would be as follows:

1. Remove the existing steel railing along the west edge of the existing bridge deck and place temporary concrete traffic barriers a minimum of 2 feet away from the west edge of the deck. Traffic will remain on the existing bridge as it is today with one lane open in each direction.
2. Construct the new southbound bridge and the west half of La Cholla Boulevard from Ruthrauff Road to River Road. Traffic will be maintained on the existing bridge and on the existing two-lane pavement. Additional paving will be added to the east side of La Cholla Boulevard as required to maintain two lanes of traffic. The median curb is likely to be constructed in two halves, depending on where traffic is being maintained. The amount of temporary pavement will vary depending on location, but generally should be one lane or less.
3. Relocate the utilities that are supported by the existing bridge onto the new southbound bridge. Move traffic to the new southbound bridge and the new roadway built in the previous phase. Remove the existing bridge and the existing pavement. Build the northbound bridge and the eastern half of La Cholla Boulevard from Ruthrauff Road to River Road.
4. Complete final striping and landscaping.

A traffic control plan will be implemented and employ additional measures such as construction signs, cones, and reduced speed limits. Any detours would be localized and use the existing roadway system. No temporary roads are anticipated to be constructed. While traffic will be maintained, traffic control measures are likely to impede the speed of traffic during the construction period. Some drivers may avoid this route in favor of parallel routes, resulting in a temporary increase in traffic on other routes during the construction period.

Earthmoving, grading, and bridge demolition will result in temporary dust generation during construction (also see the Air Quality section). Operation of construction equipment will also create noise, predominantly during daylight hours (also see the Noise section).



Permits

Prior to initiating any construction activities such as earthmoving, trenching, or road construction, the contractor will obtain an activity permit from PDEQ (in addition to other required permits). The contractor will monitor dust generation from the construction area and limit the amount of dust generated to a maximum opacity of 20 percent. The contractor will follow PCDOT standard specifications for dust suppression during construction and will comply with the SWPPP prepared for this project.

Mitigation Measures

As indicated above, dust control measures will be implemented consistent with Pima County requirements. Also see the Noise section for further discussion. The following measures are recommended to ensure access to businesses and residences:

- The contractor shall maintain access to businesses and residences.
- The contractor shall provide signs to identify business access during the construction period.

6.1.9 Cultural Resources

This section discusses potential impacts to cultural resources based on a project-specific cultural resources assessment (Cook 2008). The report abstract is provided in Appendix D. The report presents the results of a records check, pedestrian survey, and subsurface testing of the project right-of-way; evaluates the potential impacts of the project to cultural resources; and recommends mitigation to reduce impacts to resources.

Permits

Archaeological monitoring will be required for construction activities and will require a permit from the Arizona State Museum for compliance with the Arizona Antiquities Act. A burial agreement will also be required and will be obtained from the Arizona State Museum.

Existing Conditions

A records search indicates that 50 cultural resource surveys have been undertaken within 1 mile of the project area and 34 archaeological sites have been identified within 1 mile of the project site. Two archaeological sites have previously been identified that have portions located within the proposed project area:

- AZ AA:12:18 (ASM) – Hodges Ruin is a large habitation site that has at least one ballcourt, numerous pithouses, trash deposits, and other features and artifacts. Analyses of excavated artifacts associated with past excavations indicated that portions of the site have been inhabited from the Tortolita phase to the Tanque Verde phase, A.D. 500–1350, and the Rincon phase, A.D. 950–1150 (Cook 2008).
- AZ AA:12:29 (ASM) – is a flaked stone dominated artifact scatter.

A review of the Pima County Assessor's Web site indicates that there are no standing structures likely to be 50 years of age or older within the project area.



Desert Archaeology conducted a pedestrian survey of the project area in October 2007, including the project right-of-way on La Cholla Boulevard and Ruthrauff Road inclusive of the project limits. The survey identified artifacts associated with the Hodges Ruin. No artifacts associated with AZ AA:12:29 (ASM) were identified during the survey.

Archaeological testing to assess the subsurface potential for sites and to determine the site boundaries for both sites was recommended and undertaken by Desert Archaeology in February 2008. Nineteen trenches totaling 727 meters in length were excavated and evaluated for stratigraphy, sediments, and artifacts. The boundary of the Hodges Ruin near the project site has been further refined as a result of the testing. The project area is now reduced to be just outside the boundary of the Hodges Ruin, as redefined by the archaeological testing. Results of the subsurface investigations indicate that there is potential for subsurface features associated with the Hodges Ruin in close proximity to the project site. The testing did not reveal any subsurface features or artifacts associated with AZ AA:12:29 (ASM).

Potential Impacts

The project has the potential to affect subsurface features of the Hodges Ruin, AZ AA:12:18 (ASM), which occurs near the project right-of-way. Similarly, utility relocations associated with the project have the potential to affect this site. There is also the possibility that human remains may be discovered during the course of the construction project. The Hodges Ruin has previously been determined to be eligible for inclusion in the National Register of Historic Places. The site has the potential to provide important information on the cultural history of the Hohokam, their developmental distribution, settlement patterns, economic specialization, and trade.

Because the site investigations could not confirm the existence of AZ AA:12:29 (ASM), no significance determination was made. Because subsurface testing did not find any evidence of AZ AA:12:29 (ASM) in the project right-of-way, no effects to this site are anticipated as a result of the project.

Mitigation Measures

As previously indicated, the project has the potential to affect subsurface features of the Hodges Ruin. As a result of this finding, design changes were made to reduce the project limits to avoid the site. Nonetheless, the close proximity of the proposed construction to the Hodges Ruin warrants archaeological monitoring during the construction phase. The goal of the monitoring is to preserve useful information about archaeological materials that might otherwise be destroyed. The collection of artifacts observed during monitoring and the careful recording of archaeological features contribute to this goal.

The following mitigation measures are recommended:

- Archaeological monitoring will be conducted for construction activities within 100 feet of the Hodges Ruin site boundary, including utility relocations. These include all areas where natural ground surfaces are exposed or disturbed, including native soil beneath sidewalks, curbs, and asphalt.

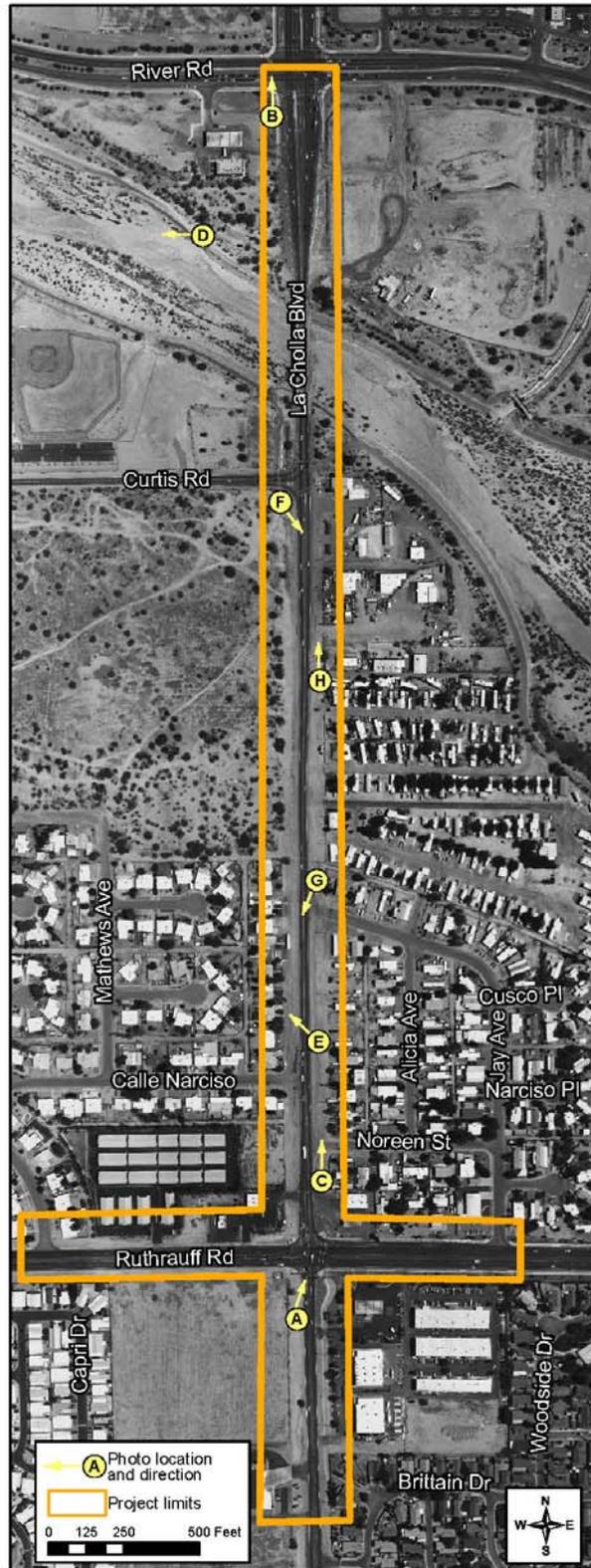


- Pima County and/or the project contractor will notify the qualified archaeologist at least 2 weeks prior to any on-site work associated with the project to allow the qualified archaeologist sufficient time to obtain proper permits for the cultural resources work. Pima County and/or the project contractor will keep the archaeological monitor informed of the work schedule and any changes.
- The qualified archaeologist will obtain the appropriate permits and provide a qualified archaeologist to monitor construction activities. Once initiated, monitoring will proceed on an as-needed basis. During excavation, the archaeological monitor will observe progress, visually inspect back dirt, and collect any artifacts observed. Observations on the sediment types, artifacts, and features will also be documented. If features are located, the monitor may temporarily halt excavations so features may be recorded.
- Prior to initiating the monitoring phase of the project, the qualified archaeologist will notify the Arizona State Museum of the proposed work and obtain an agreement with individuals or groups claiming affinity to the project area's historic or prehistoric inhabitants of the Tucson Basin to determine how human remains are to be treated if found. Human remains encountered during the fieldwork will be treated in accordance with the burial agreement developed for the project.
- If human remains are encountered during construction or suspected on the basis of features or artifacts, work in the affected area will be discontinued until appropriate measures can be taken.
- The qualified archaeologist will clean and process any recovered artifacts consistent with Arizona State Museum curation standards. The items will be analyzed by specialists and examined in relation to research issues associated with the Hodges Ruin site. Recovered materials and documentation will be submitted to the Arizona State Museum following acceptance of the final report.
- Following completion of the field effort and analysis, the qualified archaeologist will prepare a monitoring/data recovery report that documents all findings. The report will be submitted to the Arizona State Museum, Pima County, and the State Historic Preservation Office.
- If previously unidentified cultural resources are encountered during activity related to the construction of the project in areas that are not being actively monitored, the contractor should stop work immediately at that location, take all reasonable steps to secure the preservation of those resources, and contact the archaeological monitor.

6.1.10 Visual Resources

This section evaluates the project impacts on visual resources. The project is likely to result in the biggest changes in visual character along La Cholla Boulevard between Ruthrauff Road and Curtis Road. Therefore, the majority of this evaluation will focus on this area of the project. Photograph locations are identified in Figure 15.

Figure 15. Photograph Locations





Existing Conditions

Development

The intersections of La Cholla Boulevard at River Road and at Ruthrauff Road are dominated by commercial uses; a defined roadway with numerous travel lanes, medians, curbs, and sidewalks; and roadside landscaping (Figures 15A⁴, 15B).

La Cholla Boulevard between Ruthrauff Road and the Rillito River is dominated by residential uses, with commercial uses interspersed. The existing public right-of-way is wide, but only a small proportion of it is used by the existing two-lane road. As a result, much of the development has the appearance of having a large setback (Figure 15C). The existing right-of-way adjacent to the roadway is predominantly unpaved and lacks vegetation and developed features. There is a deteriorating frontage road on the west side of La Cholla Boulevard, north of Calle Narciso.

Views at the Rillito River bridge and adjacent park areas are more expansive, with views of the adjacent open space, developed park features, native and landscaped vegetation, a typically dry Rillito River, and the roadway and bridge (Figure 15D).

Dominant Visual Features

The topography in the project area is relatively flat, gently sloping toward the Rillito River. Vegetation is limited to landscaped areas near River Road and along Ruthrauff Road, the Rillito River Park, and some of the undeveloped parcels with native vegetation. The Rillito River is the major drainage feature. Minor culverts are present southwest of the bridge, north of Curtis Road, and adjacent to the service station at the southeast corner of Ruthrauff Road and La Cholla Boulevard. The Santa Catalina Mountains can be seen from most of the project area. The Tucson Mountains can be seen from many areas on the east side of La Cholla Boulevard. Looking southward from the project right-of-way, Sentinel Peak can be observed in the distance.

Views

Foreground views consist of the unpaved right-of-way and moderate-density residential or commercial development (Figures 15E and 15F). Middle ground views encompass the foreground views, as well as additional residential and commercial development (Figures 15G and 15H). Background views include partial views of the Santa Catalina or Tucson Mountains.

⁴ The letters of photographs in this section correspond to the letter of the photograph location shown in Figure 15.

Figure 15A. Northeast View of La Cholla Boulevard near Ruthrauff Road



Figure 15B. Northeast View of La Cholla Boulevard near River Road



Figure 15C. North View of La Cholla Boulevard at Noreen Street



Figure 15D. Southwest View of Rillito River from Northwest Bank of Rillito River Park



Figure 15E. Foreground View of Residential Area
on La Cholla Boulevard



Figure 15F. Foreground View of Commercial Area
on La Cholla Boulevard



Figure 15G. Middle Ground⁵ View of Residential Area on La Cholla Boulevard



Figure 15H. Middle Ground View of Commercial Area on La Cholla Boulevard



⁵ Middle ground is the median view between the foreground view, which is generally close up, and the background view, which refers to distant views (i.e., the Santa Catalina Mountains).



Potential Impacts

The project will involve the full development of La Cholla Boulevard and conversion of two travel lanes and unpaved right-of-way to six travel lanes with raised medians, turning lanes, sidewalks, and frontage roads. Noise walls up to 10 feet in height are proposed in the medians between the roadway and frontage roads and between the travel lanes and residences on the east side of La Cholla Boulevard, north of Jay Avenue (also see the Noise section). The profile of the roadway will be raised up to 3 feet in some areas. The project will also feature a landscape plan, artwork, and aesthetic treatments. The landscape plan will integrate the roadway project with the Rillito River Park, including multiuse path connections. The landscape plan will also address landscaped medians and sidewalk areas. Appendix I contains preliminary art concepts. The art and aesthetic program will be further developed in conjunction with the project team, the CAC, and the public, but may include aesthetic improvements at the bridge, the Rillito River Park, landscaped areas, and noise walls.

As a result of the proposed improvements, the travel corridor will be more structured, similar to Ruthrauff Road. However, there will be less setback between the roadway and developed uses on La Cholla Boulevard compared with Ruthrauff Road.

Foreground and middle ground views from the perspective of those traveling through the corridor will experience the most change because of the replacement of unpaved right-of-way with hardscape. Landscape elements will somewhat soften the view. If noise walls are constructed, walls will be viewed rather than residences along this segment of the project. Background views will be largely unaffected.

Foreground and middle ground views from adjacent properties will experience the most change because of the replacement of unpaved right-of-way with hardscape. Landscape elements will somewhat soften the view. If noise walls are constructed, those properties will view a frontage road and wall, rather than a roadway. Background views will be largely unaffected, except at the properties where noise walls are installed—where background views will be replaced with views of walls. Noise walls may provide opportunity for aesthetic treatment.

Mitigation Measures

The following measures are recommended to soften the hardscape and improve the aesthetic appeal of the project area:

- Include landscaping plantings in front of noise walls and in project medians where practical to soften the hardscape.
- Incorporate aesthetic treatments between Ruthrauff Road and Curtis Road, including elements on proposed noise walls.



6.2 Neighborhood/Social Environment

This evaluates impacts to the neighborhood and social environment, including right-of-way acquisition and displacement, temporary and permanent access and parking, neighborhood disruption, parks and recreational areas, and consistency with other plans.

6.2.1 Right-of-Way Acquisition and Displacement

This section evaluates the potential impacts resulting from the acquisition of new right-of-way and temporary construction easements (TCEs) for the project (Appendix H).

Existing Conditions

Land uses in the project area include residential (single-family homes and mobile homes), commercial, school/education (middle school), municipal (fire station), parks (Rillito River Park, Curtis Park), vacant land, and flood control/river (Figure 3). A Wal-Mart Store was recently constructed at the southwest corner of Ruthrauff Road and La Cholla Boulevard. Other known planned development includes:

- Riverside Crossing at the southeast corner of River Road and La Cholla Boulevard. The first phases of this project are under construction and will include a bank, medical office building, general retail, and office space.
- A 50,000-square-foot gymnasium at the northwest corner of Curtis Road and La Cholla Boulevard, between Curtis Park and La Cholla Boulevard. The facility is being planned by the Pima County Natural Resources, Parks and Recreation department but is currently unfunded and will depend on a future bond cycle.

Zoning in the project area is predominantly Mixed Use (MU), but north of Curtis Road zoning includes Suburban Homestead (SH), Specific Plan (SP), and Local Business Zone (CB-1).

Potential Impacts

New right-of-way will be needed at the Curtis Road intersection to provide new turn lanes and near the new bridge to connect sidewalks on La Cholla Boulevard to the Rillito River Park paths (Table 11).

Table 11. New Right-of-Way

Parcel	Location	Ownership	Acreage
101-13-015K	5340 N. La Cholla Blvd.	Unisource Energy Corp	0.19
101-13-015M	West side of La Cholla, north of Curtis Road	Pima County Regional Flood Control District	0.02
101-13-016C	2110 W. Curtis Road	Pima County	0.22
101-16-117A	5195 N. La Cholla Blvd.	La Cholla/Curtis Limited Partnership	0.01
Total			0.44



Most of the right-of-way needed at Curtis Road is located on undeveloped land owned by Pima County and planned for a gymnasium. The roadway improvements would be completed prior to funding of the gymnasium project. Because the gymnasium is in the very early planning stages, there is sufficient time to account for the roadway project in the site design of the gymnasium. The project will maintain multiuse path access from the Rillito River Park trail to Curtis Road. A small amount of right-of way (0.01 acre) is needed at the southwest corner of Curtis Road and La Cholla Boulevard on undeveloped land; this should have no adverse impact on future development of this parcel.

Minor right-of-way acquisitions are also needed to rebuild sidewalks and paths connecting the project to the Rillito River Park trail. Temporary impacts to facilities in these areas include landscaping, paths, and utilities, which will be replaced or relocated in conjunction with the proposed project.

Displacement of businesses and residences has been avoided through the use of minor design exceptions that reduce the width of roadway facilities. Without these design exceptions, the widened roadway would require additional right-of-way, which would result in the need for acquisitions of commercial and residential structures.

TCEs are needed at 49 locations throughout the project corridor to facilitate project construction; they total 1.64 acres. Most of the easements are from properties along the frontage of La Cholla Boulevard or Ruthrauff Road. Easements vary from 0.1 to 0.3 acre in size, with a depth ranging from 10 to 25 feet in most instances. A large TCE (approximately 0.3 acres) will be needed at the Riverside Crossing development to tie the roadway project into the Riverside Crossing driveway.

Property owners will be compensated for the use of their property. Damage to any property amenities (driveways, mailboxes, landscaping, etc.) will either be compensated or repaired/replaced as part of project construction. Impacts to properties are temporary in nature and would not have any permanent adverse effects.

Mitigation Measures

No commercial or residential displacement would result from the project, and no adverse impacts associated with acquisitions have been identified. The County will compensate property owners for the permanent or temporary use of property as mitigation consistent with County policy and state law. Therefore, no further mitigation is recommended.



6.2.2 Temporary and Permanent Access and Parking Impacts

This section evaluates the potential impacts to access and parking resulting from the project.

Existing Conditions

Vehicle Access and Parking

Within the project limits, La Cholla Boulevard has two travel lanes with turning lanes at Ruthrauff Road, Curtis Road, and River Road. North of Calle Narciso, a deteriorating asphalt strip, combined with the unpaved right-of-way, provides access to homes on the west side of La Cholla Boulevard. Similarly, north of Noreen Street, the unpaved right-of-way provides access to homes on the east side of La Cholla Boulevard. However, access to La Cholla Boulevard in this area is unrestricted. There is a 100-foot-long raised median at the southern leg of the La Cholla Boulevard/River Road intersection.

Vehicles originating from residences and businesses can currently access La Cholla Boulevard north and south from existing local streets that connect to La Cholla Boulevard. The driveways of 20 properties, primarily residences, are directly accessed from La Cholla Boulevard. Ten of these properties are on the west side of La Cholla Boulevard north of Calle Narciso, and ten are on the east side of La Cholla Boulevard between Noreen Street and Jay Avenue. Tucson Water has a well on the west side of La Cholla Boulevard that is accessed from La Cholla Boulevard north of Calle Narciso.

Residences and businesses sometimes use the unpaved right-of-way for parking. Vehicle parking (cars) within the right-of-way was observed in front of the commercial businesses at Curtis Road and in front of residences and interspersed businesses on the west side of La Cholla Boulevard north of Calle Narciso. Some of the right-of-way on the west side of La Cholla Boulevard is currently being used for commercial uses, such as the storage of tractor trailers. Parking within the right-of-way was present to a much lesser extent in front of residences on the east side of La Cholla Boulevard. A car sales lot presently uses the unpaved right-of-way to unload cars from tractor trailers.

Pedestrian, Bicycle and Bus Transit Facilities

Sidewalks are provided on Ruthrauff Road and at the intersections of La Cholla Boulevard with Ruthrauff Road and River Road, but are otherwise lacking on La Cholla Boulevard between Ruthrauff Road and River Road. Curbs are lacking on La Cholla Boulevard south of the Rillito River, and the adjacent right-of-way is unpaved. The bike lane on each side of La Cholla Boulevard is a striped shoulder approximately 5 feet wide.

Bus stops on La Cholla Boulevard are marked by signs placed within the unpaved right-of-way. Buses pull to the edge of the roadway to accept passengers. Because there is only one lane of travel and high traffic volumes, buses often have a difficult time reentering the travel lane.



Potential Impacts

Vehicle Access and Parking

Project improvements include the provision of six travel lanes and raised medians with turning lanes that control, and also limit, access. See Figure 4 for median and turning lane locations. Limiting access points reduces areas of vehicle conflict, thereby improving safety within the travel corridor. It also controls traffic circulation, providing for efficient operation of traffic facilities within the project limits. Access to and from adjacent local roads will be more limited. Turning lanes will also allow U-turns to facilitate access to residences and businesses in the corridor.

One-way frontage roads will be constructed between the residences and businesses that directly access La Cholla Boulevard north of Noreen Street and Calle Narciso. This will provide for safe ingress and egress of vehicles at these properties.

The project will result in the build-out of the right-of-way, including areas that are currently used for parking. Typically, parking within the public right-of-way is not provided for on an arterial street. Therefore, the project is expected to result in a reduction in parking within the right-of-way. Businesses will need to accommodate parking on their properties. Residential parking will need to be absorbed on the residential streets and properties. Parking of commercial vehicles (e.g., tractor trailers) will be eliminated. However, given that this parking is not an appropriate use of the right-of-way, this is not considered an adverse impact.

Access to businesses and residences will be maintained throughout the construction process. In addition, traffic will be maintained on La Cholla Boulevard during bridge construction. Also see the discussion in the Construction Activities section.

Pedestrian, Bicycle and Bus Transit Facilities

The project will include nine bus stops, including one for each leg of the Ruthrauff Road/La Cholla Boulevard intersection, and six stops along La Cholla Boulevard north of Ruthrauff Road. Bus pullouts will be constructed at the Ruthrauff Road/La Cholla Boulevard intersection. Because these locations are on the departure side of the intersection and traffic signal controlled, traffic signals provide gaps in traffic to allow buses back into travel lanes.

The balance of bus stops will not feature pullouts; rather, the bus will use the outside lane and shoulder. SunTran has indicated that this is preferable when traffic is not signal controlled so that buses can easily reenter the travel lane. Because there are two additional lanes of travel for vehicle use, a stopped bus would not substantially impede traffic operation. Concrete pads will be provided for each bus stop for passenger waiting. SunTran can install additional amenities (benches, trash cans, shelters), if desired.

Pedestrian and bicycle access will be improved through the provision of sidewalks and bike lanes. Sidewalks, crosswalks, and access ramps will be ADA compliant.

Mitigation Measures

No substantial adverse impacts on parking and access have been identified and no mitigation measures are recommended.



6.2.3 Neighborhood Disruption

This section evaluates potential impacts to the neighborhood in which the project is located. Neighborhood disruption is largely related to construction, access, noise, and other topics that were previously addressed in this report. Key impacts covered in those sections will be restated in this section.

Existing Conditions

The neighborhood consists of commercial, residential, and recreation uses. Commercial uses are concentrated at Ruthrauff Road and at River Road, and also interspersed within the corridor. Residential uses are concentrated on each side of La Cholla Boulevard between Curtis Road and Ruthrauff Road, and south of Ruthrauff Road. The Rillito River Park and Curtis Park are located adjacent to the Rillito River.

Roadway access to La Cholla Boulevard is currently unrestricted. The existing transportation facilities lack pedestrian amenities such as pads for bus stops and sidewalks. Also see sections discussing construction, access, and noise.

Potential Impacts

During construction, the project will create dust, noise, and traffic delays. The project will conform to standard requirements to restrict noise and dust during construction. Traffic over the Rillito River bridge will be maintained and access to businesses and residences will be maintained throughout the construction period. While these impacts will be somewhat disruptive, they will be temporary. See the Construction Activities section for further discussion.

Traffic noise can be mitigated to acceptable levels (less than 66 dBA) at all but eight of the adjacent residences. Also see the Noise section for additional discussion.

The installation of a raised median along La Cholla Boulevard will improve safety at the minor neighborhood roadways, but will also reduce access. See the Temporary and Permanent Access and Parking Impacts section for further discussion. Cut-through traffic is not anticipated to be a significant concern; however, Jay Avenue provides a possible cut-through route from Ruthrauff Road to La Cholla Boulevard (PCDOT 2008f). Following construction, cut-through traffic should be periodically evaluated along Jay Avenue.

The project will separate the residential areas on each side of La Cholla Boulevard by an additional width. However, the project will also improve overall connectivity through the provision of improved pedestrian, bicycle, and bus facilities. These facilities will make walking safer and more convenient, especially during rain storms. The project will replace unpaved right-of-way with sidewalks, landscaping, and bike lanes, thereby greatly improving pedestrian access in the neighborhood. Bus stops will feature a paved area for waiting passengers. Sidewalks will improve access to Rillito River Park and commercial areas. Frontage roads will provide separation between residences and travel lanes.



Mitigation Measures

The following measure is recommended to minimize cut-through traffic on Jay Avenue:

- Following construction, periodically evaluate Jay Avenue for the presence of cut-through traffic and evaluate the need for future monitoring and traffic calming if substantial impacts are identified. Initial monitoring is recommended approximately 18 months following the completion of construction. Monitoring shall be conducted, reviewed, and evaluated under the direction of a qualified traffic engineer.

6.2.4 Parks and Recreational Areas

This section evaluates impact on parks and recreation areas, including the Rillito River Park.

Existing Conditions

La Cholla Boulevard traverses the Rillito River Park, which is located along the alignment of the Rillito River (Figure 3). The park is managed by Pima County Natural Resources, Parks and Recreation. The primary feature of the park is a multiuse path along the Rillito River that extends from just east of Interstate 10, east to Craycroft Road. A paved, multiuse trail is maintained along this length of the Rillito River on either the north or south bank. West of La Cholla Boulevard, the multiuse path is along the south bank of the Rillito River. East of La Cholla Boulevard, the multiuse path is on the north bank of the Rillito River. Path users are able to use the underpasses and bridge at La Cholla Boulevard to access the opposite side of La Cholla Boulevard without crossing any roadway travel lanes. The multiuse path on the south bank parallels La Cholla Boulevard for a short distance, forming a connection to Curtis Road. A crosswalk on La Cholla Boulevard at Curtis Road also provides Rillito River Park access.

An entry monument wall and irrigated landscape plantings are located on the southeast of the bridge. Southwest of the bridge, a concrete-lined ditch and culvert are located between La Cholla Boulevard and the multiuse path connection to Curtis Road. Northwest and northeast of the bridge there are monument entries for accessing the multi-use path from La Cholla Boulevard. The area northeast of the bridge includes shade landscaping, sitting areas with benches, a drinking fountain, and a small plaza. There is a pole-mounted pedestrian scale light fixture right at the northeast corner of the bridge. There are also access connections for service vehicles.

The Riverside Crossing commercial development at La Cholla Boulevard and River Road will provide some parking spaces and a connection to the Rillito River Park trail in the future.

Curtis Park is located on the north side of Curtis Road, just west of La Cholla Boulevard and features sports fields and a play area. Flowing Wells District Park is a small park located farther west on the north side of Curtis Road and features a play area.

A 50,000-square-foot gymnasium is planned by Pima County Natural Resources, Parks and Recreation on the north side of Curtis Road at La Cholla Boulevard, just east of Curtis Park. Funding for this facility is not anticipated until 2010 or later.

Park irrigation lines are also located on the Rillito River bridge that serves the Rillito River Park, Curtis Park, and Flowing Wells District Park to the west.



Potential Impacts

Roadway and bridge construction will temporarily affect access to the River Park during bridge and roadway construction. Access under the La Cholla Boulevard bridge and specific access points will be affected for approximately 18 months and path users will be routed around project construction. Initial pedestrian detours will be minor. The path on the east side of the bridge will be initially maintained for north-south access during construction of the new southbound bridge structure. Combined with the use of the Curtis Road crosswalk, east-west trail access can be easily maintained without use of the paths below the bridge. This route does not add any distance, but the use of the Curtis Road crosswalk will require users to pause while waiting for traffic to stop at the signal.

During construction of the northbound bridge structure, the existing bridge will be demolished. Rillito River Park users will be detoured to the crosswalk at River Road and La Cholla Boulevard and cross the west side of the new southbound bridge for continued east-west trail access. The crosswalk at River Road and La Cholla Boulevard along with the west side of the new bridge will be used for continued east-west trail access. This represents a multiuse path detour of approximately 1,400 feet and may last 6 to 9 months.

Following construction of the bridge and roadway, new connections will be established between La Cholla Boulevard and the multiuse path, and overall access to the park along the project corridor will be improved. The connection to Curtis Road will be maintained. Southwest of the bridge, the sidewalk must be directed around a 46 kV power pole so the sidewalk and the multiuse path will be connected, and offset from the road, with a landscape buffer between the path and roadway. Sidewalks will be provided within project limits on each side of La Cholla Boulevard and Ruthrauff Road, except at the vacant parcels south of Curtis Road. It is anticipated that sidewalks will be required for these parcels when they are developed. Path connections will be designed consistent with AASHTO guidelines for the development of bicycle facilities and in coordination with the Pima County Bike and Pedestrian Program to ensure that connections provide sufficient turning radius for bicyclists.

The project will include the installation of landscape improvements in accordance with PCDOT Landscape and Irrigation Design Guidelines and the Pima County *Roadway Design Manual*. The project landscape plan includes the affected portions of the Rillito River Park and elements to be included in the plan are:

- Drought-tolerant, low-maintenance trees, shrubs, and accent plants
- Landscape grading for water harvesting
- Surface and slope treatments such as decomposed granite, rock, rip rap, sidewalks, and walls

The project will include compliance with the County's Native Plant Protection Ordinance (Pima County Zoning Code, Section 18.72). Native plants for the project corridor have been inventoried and evaluated. Protected plants will be salvaged and replanted or replaced. Park entries and existing monument walls may need to be relocated or modified.

Water lines on the bridge provide irrigation water for the Rillito River Park, Curtis Park, and Flowing Wells District Park. Construction activities will provide for continuous water service for irrigation of these parks.



Mitigation Measures

The following measures are recommended to reduce impacts associated with local parks:

- Existing irrigation lines and controllers at the Rillito River Park will be temporarily relocated away from construction activities and reconnected to provide uninterrupted irrigation to existing landscaping outside the limits of project construction.
- The contractor will maintain continuous water service for park irrigation, including reclaimed water mainlines.
- The landscape and roadway design shall include delineated park entries, using the existing walls or other aesthetic treatments.
- The contractor will maintain access to the Rillito River Park for park maintenance vehicles.

With implementation of the above measures, no permanent adverse impacts will result to the Rillito River Park, and temporary impacts to Curtis Park and Flowing Wells District Park will be avoided. Although Rillito River Park access will be maintained, path users will be routed 1,400 feet around construction activities for approximately 6 to 9 months. This is considered an unavoidable, but temporary, adverse impact.

6.2.5 Consistency with Other Plans

This section evaluates the project's consistency with applicable Pima County plans including the Pima County *Comprehensive Plan* (Pima County 2001), the *Regional Transportation Plan* (RTA 2006), and the Pima County *Roadway Design Manual* (PCDOT 2003).

Consistency with the *Regional Transportation Plan*

The purpose of the project is to implement improvements to La Cholla Boulevard consistent with the *Regional Transportation Plan*, which provides for the widening of La Cholla Boulevard between Ruthrauff Road and River Road to a six-lane roadway, the construction of a new bridge at the Rillito River, and the provision of bike lanes and sidewalks.

Consistency with the Pima County *Roadway Design Manual*

The project has been designed and evaluated consistent with the Pima County *Roadway Design Manual* (PCDOT 2003), with design exceptions for lane, shoulder, and median widths. These design exceptions were identified to minimize right-of-way impacts to adjacent properties. If design manual widths were implemented, additional right-of-way would be needed from residential and commercial properties. The amount of right-of-way that would be required would likely result in a full take of numerous properties. This was considered to be an unacceptable condition by PCDOT. The project design conforms to AASHTO controlling design criteria. Therefore, the design exceptions are considered a minor inconsistency with Pima County design standards, but would not affect the safety or operations of the roadway.



Consistency with the Pima County *Comprehensive Plan*

Policies from the Circulation Element of the *Comprehensive Plan* are the most applicable to the project. An evaluation of the project's consistency with key policies is provided below.

Policy B of the Circulation Element provides:

“Environment—Roadway and transportation infrastructure shall be designed in an environmentally- or context-sensitive manner to the greatest extent feasible.”

Because of the characteristics of the project area (mostly developed land uses, lacking areas of native vegetation) PCDOT has waived the environmentally sensitive roadway design requirements for the project (PCDOT 2007a). Thus, the context for design and evaluation of the project is a developed environment with the Rillito River and the Rillito River Park as considerations. The primary environmental factors are: 1) the presence of sensitive land uses (residential, park); 2) access to recreational areas (Rillito River Park); and 3) protection of the Rillito River.

The project will avoid the acquisition of residences through the use of minor design exceptions to the *County Roadway Design Manual* while still meeting AASHTO requirements, thus minimizing the need for new right-of-way. The project will use rubberized asphalt which produces less roadway noise than standard materials, and all feasible and reasonable noise mitigation will be implemented, consistent with the PC NAP. Nonetheless, noise levels at eight residences will still exceed PC NAP criteria of 66 dBA.

While the project will result in an increase in noise levels at the River Park; however, given that the park is primarily for active uses along the multiuse path, this is not considered substantial impact. The project will improve overall connectivity with the River Park in the project corridor. CWA requirements (Section 404, AZPDES) provide protection for the Rillito River during project construction. The project will not have any adverse permanent impacts to the Rillito River.

Based on these considerations, the project is moderately consistent with Policy B.

Policy C of the Circulation Element provides:

“Neighborhoods—Existing residential areas shall be mitigated from vehicular traffic impacts to the greatest extent feasible when roadway improvements occur.”

The primary vehicular traffic impact on neighborhoods is traffic noise; another is cut-through traffic. As discussed previously, the project will use rubberized asphalt which reduces roadway noise, and will implement all feasible and reasonable mitigation consistent with the PC NAP. The project will improve safety at the minor neighborhood roadways, but will also reduce access. Cut-through traffic is not anticipated, but is possible at Jay Avenue. Monitoring is recommended to determine any future needs for traffic calming. Therefore, the project is generally consistent with Policy C.



Policy D of the Circulation Element provides:

“Alternative Modes—Multi-modal transportation infrastructure shall balance the needs of all users and provide viable alternatives to driving where appropriate and to the greatest extent feasible.”

The project will provide bus stops on La Cholla Boulevard and bus pullouts at the Ruthrauff Road intersection. The project also provides striped bike lanes, sidewalks, and connections to the Rillito River Park. Therefore, the project improves and supports multimodal transportation and is consistent with Policy D.

Policy H of the Circulation Element provides:

“Pima County standards for roadway design may be modified by the Board of Supervisors if the design provides substantial environmental protection and meets minimum safety standards.”

The project includes design exceptions for lane, shoulder, and median widths and would require Board of Supervisors approval. These design exceptions were identified to minimize the acquisition of right-of-way from residential properties. This represents the avoidance of a social impact on the environment, which may be considered environmental protection. The design will still meet AASHTO requirements and, therefore, will still meet safety standards. Therefore, the project is generally consistent with Policy H.

Policy K1 of the Circulation Element provides:

“All arterial and collector streets which are part of the Regional Bikeway Plan shall be constructed according to the classification shown on the plan. All other major streets should have sufficient pavement width to accommodate bicycle travel.”

The Pima Association of Governments Regional Bicycle Facilities Map is considered the Regional Bikeway Plan and classifies La Cholla Boulevard in the project area as a bike route with a striped shoulder, bike route signs, a white edge line and an approximately 4-foot to 10-foot-wide paved shoulder (PCDOT 2001). Ruthrauff Road in the project area has the same classification. South of Ruthrauff Road, La Cholla Boulevard is classified as a major street that may be appropriate for experienced riders (more traffic, higher speeds, less width). The project will construct 6-foot bike lanes on both sides of La Cholla Boulevard, except at the frontage roads, where bike lanes will be 5 feet in width. Therefore, the project is consistent with the Regional Bikeway Plan and with Policy K1.



7.0 Agency Coordination

Pima County has and will continue to cooperate with several agencies for this project. These efforts include:

- Pima County is coordinating with SunTran on the design of transit facilities that need to be accommodated in the project. The project will provide ADA compliant bus pullouts and stops (see 9/18/08 Letter from SunTran, Appendix A).
- The project is likely to require a permit from the Corps for compliance with Section 404 of the CWA for construction in the Rillito River. The project team is coordinating with the Corps to determine the appropriate permit to use for the project.
- Compliance with Section 402 of the CWA will require preparation of a SWPPP and filing of a Notice of Intent to comply with the Statewide Construction Permit with ADEQ.
- The project involves the removal of native plants and will require notification to the Arizona Department of Agriculture and development of a Native Plant Preservation Plan.
- The County will consult with interested tribes and the State Historic Preservation Office to mitigate impacts cultural resources.
- The qualified archaeologist will obtain a permit from the Arizona State Museum for the archaeological monitoring to be conducted during project construction.
- The County will coordinate with the City of Tucson Water Department on access to its well on the west side of La Cholla Boulevard and on the relocation of any water facilities. The City of Tucson Water Department has indicated that smaller vehicles and equipment will be used to access the well site.
- In addition, Pima County Department of Transportation is coordinating with the following County departments:
 - Environmental Quality
 - Natural Resources, Parks and Recreation
 - Regional Wastewater Reclamation



8.0 Public Participation

8.1 Public Participation Activities

Public involvement activities have included forming a CAC, holding CAC meetings, and conducting public open houses, as further outlined below. Also see Table ES-2 for a tabular summary of public involvement activities. Appendix A provides public participation materials including meeting notices, meeting summaries, materials provided, correspondence between PCDOT and the CAC, and public comments.

The CAC was formed to provide PCDOT with input throughout the design process. Property owners and residents within a 0.5-mile radius of La Cholla Boulevard were invited to be on the CAC. Twenty membership applications were received, and 14 members were selected, including 12 residential property owners and 2 business owners. Some member have resigned, and currently there are 7 CAC members.

CAC meetings have been held on the following dates and for the purposes outlined below:

- August 7, 2007 – organizational meeting providing an overview of the CAC process and project components including project overview, data collection, public art, etc.
- October 2, 2007 – meeting focused on the roadway alignment and planning
- October 9, 2007 – update on the status of surveys and reports, overview of the project schedule, and traffic study results
- December 6, 2007 – discussion of key issues including safety, noise, access, parking, and visual concerns
- July 24, 2008 – project update and presentation of the noise report
- August 12, 2008 – presentation of the draft DCR and the draft EAMR

Each meeting involved CAC member input, and meeting summaries were prepared. Additional CAC meetings will be held to discuss other key stages of project design.

A public open house was held on March 6, 2008, with 84 members of the public in attendance, and on September 11, 2008, with 39 members of the public in attendance. Attendees were encouraged to complete comment forms or other written comments. A questionnaire requesting comments was also distributed in conjunction with the September 11 open house, resulting in the submittal of 37 completed questionnaires. Additional public meetings are planned to review the design plans. A public hearing will be held on the EAMR.

The Regional Transportation Authority has contacted businesses in the project area to educate them about the project and the Main Street business assistance program. Approximately 100 businesses have been contacted.



8.2 Community Comments

The CAC favors a number of project design elements, including:

- providing a new, wider bridge
- maintaining access to the linear park
- improving the intersections at Curtis Road and at Ruthrauff Road
- providing sidewalks, bike lanes, and raised medians
- landscaping medians and shoulders
- providing noise walls
- providing bus pullouts at Ruthrauff Road
- minimizing disruption to utilities
- using public art

Specific aspects of the project design that the CAC would like to see in the project are further summarized in the comment and response section below.

Additional positive comments from the community about the project design include:

- additional capacity to reduce traffic congestion
- improved roadway safety and access through construction of medians, etc.
- improved pedestrian access and park access by constructing sidewalks and paths
- corrected drainage problems
- provision of landscaping and public art
- provision of a new bridge
- provision of bike lanes
- improved transit access
- preference for one-way frontage roads
- improved circulation at Curtis Road (reduces conflicts with north-south traffic)

Some community members commented in favor of providing noise walls, while others did not favor providing noise walls. Noise walls are currently proposed for a portion of the project, although they would need to be approximately 10 feet tall in most instances to accomplish noise abatement objectives.

Key CAC and community comments arising from the public involvement activities are outlined below, followed by County responses. The responses are based on feedback previously provided to the CAC or the public, specific information on the project design, and input based on a third-party review of the project⁶, which included feedback on community comments related to the project design.

⁶ PCDOT hired a consultant team to conduct a value engineering review of major transportation projects, standards and procedures. *La Cholla Boulevard: Ruthrauff Road to River Road*, was included in the projects reviewed (PCDOT 2008h).



- Comment:** The CAC-recommended alternative would require the County to purchase new right-of-way, including residential properties along the east and west side of La Cholla Boulevard. This alternative is recommended because it provides for 12-foot travel lanes instead of 11-foot travel lanes, eliminates the need for frontage roads, and provides for bus pullouts, additional landscaping, and other amenities the CAC believes would improve safety and aesthetics..
- Response:** *The County's preferred alternative provides similar facilities as the CAC recommended alternative but does not have substantial right-of-way impacts. The alternative would provide one-way, 16-foot frontage roads on each side of La Cholla Boulevard. Bus pullouts at the La Cholla Boulevard and Ruthrauff Road intersection and bus stops on La Cholla Boulevard are part of the proposed project. Bus pullouts and stops have been designed with input from SunTran. The proposed width of travel lanes meets the national standards provided by AASHTO and is not considered unsafe or substandard. The proposed 5- to 6-foot bike lanes will improve safety over the existing condition. Landscaping and artwork will be a component of the proposed design.*
- Comment:** The increased traffic caused by additional travel lanes and the proximity of houses to travel lanes are a safety concern. Speeding cars could leave the road and crash into private property. On the southern corner of Noreen Street, a block wall was hit by a driver. The roadway widening will result in the danger of cars running onto private property and injuring people or damaging property.
- Response:** *Increasing traffic volumes require the addition of lanes to safely handle the expected traffic load. Additional lanes will improve safety because they will decrease congestion and the corresponding driver frustration. Decreased lane widths have the effect of slowing driver speed. In addition, the proposed 6-inch curb is intended to prevent vehicle incursion and discourage vehicles from leaving the roadway. The proposed design is within accepted standards and guidelines.*
- Comment:** The proposed 11-foot-wide travel lanes are too narrow and unsafe. Wider lanes should be used, as outlined in the Pima County *Roadway Design Manual* or as demonstrated on La Cholla Boulevard north of River Road.
- Response:** *The proposed width of travel lanes meets the national standards provided by AASHTO and is not considered unsafe or substandard. In addition, this slightly narrower lane width has been shown in traffic studies to promote slower travel speeds without having a measurable effect on traffic operation. This lane width also minimizes the need for residential and commercial property acquisitions.*



- Comment:** The County has received differing opinions on the desirability of noise walls, with many residents favoring the provision of noise walls between the roadway and residences, especially at the proposed frontage roads.
- Response:** *A noise study was conducted for the project and, based on the study, noise walls are warranted in three areas: in the medians between the roadway and the frontage roads on each side of La Cholla Boulevard and in front of residences north of Jay Avenue.*
- The County has received varying opinions on the desirability of noise walls. Some view them as desirable for the privacy and noise mitigation. Others view them as undesirable because they block sunlight and views, are sometimes considered a vandalism concern, or can be considered unattractive. The PC NAP directs that 51 percent of the benefited property owners must consent to the construction of the barrier.*
- Residential property acquisitions at either of the frontage roads would eliminate the need for a noise wall at the respective frontage road location. Walls would still be warranted in front of the residences north of Jay Avenue under all scenarios.*
- Comment:** Enough time must be allocated for pedestrians to cross the street at La Cholla Boulevard and Ruthrauff Road. This is of particular concern with the school located south of Ruthrauff Road. Signals at Curtis Road and Ruthrauff Road should be coordinated.
- Response:** *Signal timing will be considered during the design of the intersections and will account for pedestrian use, including school children. The signal timing between Curtis Road and Ruthrauff Road will be evaluated. The use of 11-foot lanes will result in 6 to 8 feet less width for pedestrians crossing La Cholla Boulevard, resulting in a reduction in crossing time of approximately 2 seconds.⁷*
- Comment:** The CAC would like all bus stop locations to be pullouts so buses will not stop in the travel lanes.
- Response:** *The County is coordinating with SunTran on the bus stop locations. SunTran prefers that bus stops be located on the departure side of signalized intersections, in which case a bus pullout can be used. For nonsignalized locations, or where stops are located on the approach side of an intersection, pullouts are not preferred because it is more difficult for the buses to reenter the travel lane. Because there are three travel lanes provided in each direction, a bus stopped in the outside lane is not considered a hindrance to efficient traffic operation. Also see 9/18/08 letter from SunTran regarding their review of the project in Appendix A.*

⁷ based on an average pedestrian speed of 4 feet per second (PCDOT 2008h)



- Comment:** The CAC is concerned that losing parking in the public right-of-way will place a hardship on the property owners fronting La Cholla Boulevard. Property owners may have to reconfigure their front yards to accommodate parking, or seek parking on side streets farther away.
- Response:** *Parking within the public right-of-way is typically not provided in an arterial roadway project and will be eliminated. Therefore, parking will need to be absorbed on commercial and residential properties and local streets.*
- Comment:** Medians and one-way frontage roads will make access to and from local streets that connect to La Cholla Boulevard too difficult. A U-turn is needed at River Road. Access to frontage roads should be off side streets and deceleration lanes should be provided. Frontage roads should be wider to accommodate two-way traffic.
- Response:** *Raised medians limit access, but also improve safety by reducing the potential for collisions. A median opening and most signalized intersections will provide U-turns for easy access to local streets and frontage roads. Access to the southbound frontage will be improved by extending the frontage road farther north and widening the tapered entrance. In order to minimize right-of-way impacts, narrower frontage roads are proposed. Substantial residential and commercial property acquisitions would be required in order to provide a wider frontage road. Frontage roads provide safer access to existing properties that currently access directly into the roadway.*
- Comment:** There is a lot of bicycle traffic in the area. Bike lanes should be wider to ensure cyclist safety.
- Response:** *The standard bike lane typically used by Pima County is 6 feet wide, including the gutter pan, which reduces the effective bike lane width to 4.5 feet. Gutter pans will be largely eliminated to increase the effective width of lanes to 5 feet at the frontage roads and 6 feet elsewhere. This is consistent with AASHTO and Institute of Transportation Engineers (ITE) standards, which identify a minimum width of 5 feet and a recommended width of 6 feet (ITE 2006).*
- Comment:** Minimize the need for new right-of-way and do not waste taxpayer money.
- Response:** *The proposed design maximizes use of the existing right-of-way, thereby minimizing the need for additional right-of-way and avoiding any complete take of commercial or residential properties. This approach saves approximately \$4 million in public monies, compared with other design alternatives.*
- Comment:** Please build as soon as possible; congestion relief is needed now.
- Response:** *Project construction will commence in the summer of 2010 and be completed within 24 months. Therefore, roadway improvements will be completed by the summer of 2012.*



9.0 Conclusions and Recommendations

Summary Table

For the adverse impacts identified in this assessment, a summary describing the impact, recommended mitigation, necessary coordination with other agencies, and the parties responsible for implementing the mitigation is provided below (Table 12).

Table 12. Impact and Mitigation Summary

Potential Impacts	Recommended Mitigation	Agency Coordination and Consultation	Parties Responsible for Implementation
Removal of native plants	Comply with the Arizona Native Plant Law and the Pima County Native Plant Preservation Ordinance.	Arizona Department of Agriculture	Pima County and Contractor
	File a Notice of Intent with the Arizona Department of Agriculture for the removal or salvage of applicable native plants.	Arizona Department of Agriculture	
Disturbance of nesting birds	Conduct bridge demolition outside the swallow breeding season (after June and prior to March). Alternatively, if it is necessary to conduct bridge demolition during the breeding season, implement the following measure: - Prior to the nesting season, remove nest remnants from the bridge to prevent the birds from rebuilding their nests. Conduct protocol burrowing owl surveys 90 days prior to construction activities.	Arizona Game and Fish Department (if burrowing owls are present)	Contractor
Impacts to waters of the United States	If required, obtain a Section 404 Nationwide Permit.	U.S. Army Corps of Engineers	Pima County and Contractor
Stormwater impacts resulting from soil exposure, erosion, etc.	File a Notice of Intent with the Arizona Department of Environmental Quality (ADEQ), and prepare and implement a Stormwater Pollution Prevention Plan (SWPPP).	Arizona Department of Environmental Quality	Pima County and Contractor
Dust during construction	Implement standard specifications for dust suppression and comply with the SWPPP (referenced above). Obtain an Activity Permit from the Pima County Department of Environmental Quality.	Pima County Department of Environmental Quality	Contractor
Roadway noise	Construct noise walls as identified in the traffic noise report.	Pima County Department of Transportation	Contractor
Construction noise	Construction equipment will be maintained in good working order; intake silencers will be used where appropriate; new equipment will be subject to new product noise emission standards; stationary equipment will be located as far away from sensitive receivers as possible; construction activities adjacent to residential areas will be limited to daylight hours to maximum extent practicable.	Pima County Department of Transportation	Contractor
Utility service interruptions	Utility customers will be notified in advance of any utility service interruptions.	Applicable utilities	Utilities or Contractor
Exposure of unanticipated hazardous materials	If suspected hazardous materials are encountered during construction, work shall cease at the location and the Pima County Engineer shall be contacted to arrange for proper assessment, treatment, or disposal of those materials.	Pima County Department of Transportation	Contractor
Business and residential access during construction	The contractor shall maintain access to businesses and residences. The contractor shall provide signs to identify business access during construction.	Pima County Department of Transportation	Contractor
Disturbance of subsurface cultural resources	Archaeological monitoring will be conducted for construction activities within 100 feet of the Hodges Ruin site boundary. The qualified archaeologist will obtain proper permits, monitor construction activities, determine how human remains are to be treated if found, and prepare a monitoring/data recovery report that documents all findings for submission to the Arizona State Museum, Pima County, and the State Historic Preservation Office. If human remains, site features, or previously unidentified cultural resources are encountered during construction at any location other than that being monitored within 100 feet of the Hodges Ruin, the contractor should stop work immediately at that location, take all reasonable steps to secure the preservation of those resources, and contact the archaeological monitor.	Arizona State Museum Applicable tribes State Historic Preservation Office Pima County Cultural Resources and Historic Preservation Office	Contractor Qualified Archaeological Monitor

(continued on next page)



Table 12. Impact and Mitigation Summary (*continued*)

Potential Impacts	Recommended Mitigation	Agency Coordination and Consultation	Parties Responsible for Implementation
Visual impact associated with preponderance of hardscape between Ruthrauff Road and Curtis Road	Include landscaping plantings in front of noise walls and in project medians where practical to soften the hardscape. Incorporate aesthetic treatments between Ruthrauff Road and Curtis Road, including elements on proposed noise walls.	Pima County Department of Transportation	Pima County Department of Transportation
Cut-through traffic increases on residential street (Jay Avenue)	Following construction, periodically evaluate Jay Avenue for the presence of cut-through traffic. Monitoring shall be conducted as directed by a qualified traffic engineer.	Pima County Department of Transportation	Pima County Department of Transportation
Landscape, irrigation, and access impacts to local parks	Provide uninterrupted irrigation to existing landscaping at affected parks. The contractor will maintain continuous water service for park irrigation, including reclaimed water main lines. Include delineated park entries using existing walls or other aesthetic treatments. The contractor will maintain access to the Rillito River Park for park maintenance vehicles.	Pima County Natural Resources, Parks and Recreation	Contractor



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11.0 Abbreviation and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
ASM	Arizona State Museum
AZPDES	Arizona Pollutant Discharge Elimination System
bgs	below ground surface
CAC	Citizens Advisory Committee
C.F.R.	Code of Federal Regulations
cfs	cubic feet per second
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
County	Pima County
CWA	Clean Water Act
DCR	Design Concept Report
dBA	decibel
EAMR	Environmental Assessment and Mitigation Report
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
IMBTA	International Migratory Bird Treaty Act
mph	miles per hour (mph)
NAAQS	National Ambient Air Quality Standards
NEAP	Natural Events Action Plan
NO₂	nitrogen dioxide
O₃	ozone
PAG	Pima Association of Governments
PCDOT	Pima County Department of Transportation
PC NAP	Pima County Noise Abatement Procedure
PDEQ	Pima County Department of Environmental Quality
PM	particulate matter



ppm	parts per million
SO₂	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
TCE	temporary construction easement
TNW	traditional navigable water
USFWS	U.S. Fish and Wildlife Service
ug	microgram
WOUS	Waters of the United States